



|                       |                                                           |
|-----------------------|-----------------------------------------------------------|
| <b>Catalog Number</b> | 72504                                                     |
| <b>UPC Number</b>     | 601986725040                                              |
| <b>Description</b>    | LED Up/Down Wall Wash Lighting<br>35W<br>Voltage: 120/277 |



#### Features

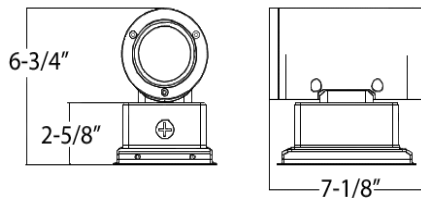
- Citizen COB LEDs
- Corrosion Die Cast Aluminum Housing
- Acrylic convex lens
- Superior Architectural Bronze Powder Coat Finish
- Stainless Steel Hardware
- 50,000+ Hour Life Expectancy
- cULus Listed

#### General

|            |                          |
|------------|--------------------------|
| Material:  | Diecast Aluminum Housing |
| Lens:      | Acrylic convex lens      |
| Finish:    | Bronze Powdercoat        |
| Lamp Type: | LED                      |
| Reflector: | Aluminum                 |
| Photocell: | Optional                 |
| Lumens     | 3248                     |

#### Dimension Information

|         |        |
|---------|--------|
| Length: | 7-1/8" |
| Height: | 6-3/4" |



#### Specifications

|                      |                    |
|----------------------|--------------------|
| Temperature Rating:  | -40F to 131F       |
| Voltage Rating:      | 120/277            |
| Flammability Rating: | UL94V-2            |
| Wattage Rating:      | 35W                |
| Light Pattern:       | 129 deg Beam Angle |
| CRI:                 | 83                 |

#### Packaging

|         |   |
|---------|---|
| Box Qty | 1 |
|---------|---|

#### Certifications

|               |        |
|---------------|--------|
| cULus         | Yes    |
| DLC           | No     |
| IP65(Nema 4X) | Yes    |
| Warranty      | 5 Year |

[www.morrisproducts.com](http://www.morrisproducts.com)

Morris Products 53 Carey Road, Queensbury, NY 12804

## LM-79-08 Test Report

For

**Morris Products Inc.**

**Brand Name: MORRIS**

53 Carey Rd. Queensbury, NY 12804

## LED Lamp

Model name(s): 72504  
72505

Test & Report By:

*Johnson Sun*

Engineer: Johnson Sun

Date: Dec.15, 2015



Review By:

*Tommy Liang*

Manager: Tommy Liang

Note: This report does not imply product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

**Laboratory: Standard-Tech Co. Ltd Testing Center**

**NVLAP CODE: 201011-0**

Report Format Number STD/QR4909-A/2

Address: Standard-Tech Building, No.6 Guanhong Road, Guangzhou Science City, Guangzhou 510663, China

Tel: 8620-3229 0320

Fax: 8620-32290422

<http://www.standard-tech.com>

U.S. Department of Energy

# Lighting Facts™ Uniform LM-79 Reporting Template

## Laboratory Information:

|                         |                         |
|-------------------------|-------------------------|
| Name of Test Laboratory | Standard-Tech Co., Ltd. |
| Date of Test Report     | Dec.15, 2015            |
| Test Report No.         | GZE151157-11A           |
| Laboratory Contact Name | Tommy Liang             |

## Product Information:

|                                                                         |                      |     |    |
|-------------------------------------------------------------------------|----------------------|-----|----|
| Organization Name                                                       | Morris Products Inc. |     |    |
| Brand Name                                                              | MORRIS               |     |    |
| Model Number                                                            | 72504; 72505         |     |    |
| SKU (if available)                                                      | N/A                  |     |    |
| Type of Luminaire<br>(for integral lamps, list base type and lamp type) | LED WallWash Fixture |     |    |
| Luminaire Aperture (for downlights)                                     | --                   | in. | mm |
| Luminaire Length                                                        | --                   |     |    |
| Luminaires Width                                                        | --                   | mm  |    |
| Number of Units (modular products)                                      | N/A                  | s   |    |

## Goniophotometer

### Electrical Measurements:

### Output

|                    |        |   |
|--------------------|--------|---|
| Input Wattage      | 33.00  | W |
| Input Current      | 0.1322 | A |
| Input Voltage (ac) | 277.0  | V |
| Power Factor       | 0.9015 |   |
| Off-State Power    | 0      | W |

### Photometric Characteristics

|                                         |        |      |
|-----------------------------------------|--------|------|
| Total Luminous (lm) (0°-90° zone)       | 2095.5 | lm   |
| Luminous Efficacy (lm/W) (0°-90° zone)  | 63.50  | lm/w |
| Correlated color temperature / CCT      | --     | K    |
| Color rendering index / CRI             | --     |      |
| R9 Value                                | --     |      |
| Duv                                     | --     |      |
| <b>Luminous Intensity Distribution</b>  |        |      |
| Center beam candlepower (if applicable) | 5      | cd   |
| Beam angle (if applicable)              | 304.6  | °    |
| Zonal lumens in the 0°-60° zone         | 20.9   | %    |
| Zonal lumens in the 60°-90° zone        | 43.5   | %    |
| Zonal lumens in the 90°-120° zone       | 22.2   | %    |
| Zonal lumens in the 120°-180° zone      | 13.5   | %    |

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|                            |                                                                                                                                                                                  |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Specifications:       |                                                                                                                                                                                  |
| Date of Receipt            | : Dec.15,2015                                                                                                                                                                    |
| Date of Test               | : Dec.15,2015                                                                                                                                                                    |
| Test item                  | : Total Luminous Flux, Luminous Distribution Intensity, Luminous Efficacy, Electrical parameters                                                                                 |
| Reference Standard         | IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products<br>IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems |
| Reference Work Instruction | QD25                                                                                                                                                                             |

## Test Methods

### 1. Photometric and Electrical measurements – Light Distribution Method:

Photometric parameters were measured using the goniophotometer and software. The ambient temperature shall be maintained at  $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$ , measured at a point not more than 1 m from the sample and at the same height as the sample. The sample was operated at 277Volts AC, 60Hz. It was stabilized before measurement was made. Luminous flux, luminaire efficacy, zonal lumen were calculated from the software taken at  $1^{\circ}$  vertical intervals and  $22.5^{\circ}$  horizontal intervals.

# 1. Product Information:

|                           |                       |
|---------------------------|-----------------------|
| Brand Name                | MORRIS                |
| Model Number              | 72504                 |
| Luminaire Type            | LED Lamp              |
| Rated Voltage / Frequency | 120-277Vac, 60Hz      |
| Nominal Power             | 33W                   |
| Rated Initial Lamp Lumen  | N/A                   |
| Declared CCT              | 5000K                 |
| LED Manufacturer          | N/A                   |
| LED Model                 | CLU036-1205C1-50AL7G4 |
| Power Supply:             | TDA-36-C0800          |
| Sample Receipt Date       | Dec.15,2015           |
| Sample Number             | GZE151157-11A         |

## Photo



|                                                                                                      |                       |
|------------------------------------------------------------------------------------------------------|-----------------------|
| <b>2.1 Electrical, Photometric and Chromaticity Measurements</b><br>(Refer to Work Instruction QD25) | <b>IES LM-79 2008</b> |
|------------------------------------------------------------------------------------------------------|-----------------------|

|                         |             |                                 |         |
|-------------------------|-------------|---------------------------------|---------|
| <b>Test date</b>        | 2015-12-15  | <b>Test Ambient:</b>            | 25.1° C |
| <b>Test Orientation</b> | As intended | <b>Stabilization Time (min)</b> | 90      |
| <b>Model Number</b>     | 72504       |                                 |         |

### Electrical Measurement:

| Sample No.        | Voltage (Vac) | Frequency (Hz) | Current (A) | Power (W) | Power Factor | THD % |
|-------------------|---------------|----------------|-------------|-----------|--------------|-------|
| GZE151157<br>-11A | 277.0         | 60             | 0.1322      | 33.00     | 0.9015       | 18.89 |

### Goniophotometer Method:

| Parameter                              | Result |
|----------------------------------------|--------|
| Test Voltage (V)                       | 277.0  |
| Frequency (Hz)                         | 60     |
| Total Luminous (lm)                    | 3248.5 |
| Luminous Efficacy (lm/W)               | 98.44  |
| Total Luminous (lm) (0°-90° zone)      | 2095.5 |
| Luminous Efficacy (lm/W) (0°-90° zone) | 63.50  |
| Beam Angle°                            | 304.6  |
| Center Beam Candle Power (cd)          | 5      |

### Zonal Lumen Tabulation:

| Lumens Per Zone |        |         |         |        |         |
|-----------------|--------|---------|---------|--------|---------|
| Zone            | Lumens | % Total | Zone    | Lumens | % Total |
| 0-5             | 0.1    | 0.0%    | 90-95   | 249.5  | 7.7%    |
| 5-10            | 0.4    | 0.0%    | 95-100  | 164.0  | 5%      |
| 10-15           | 1.7    | 0.1%    | 100-105 | 49.9   | 1.5%    |
| 15-20           | 6.1    | 0.2%    | 105-110 | 100.2  | 3.1%    |
| 20-25           | 14.7   | 0.5%    | 110-115 | 95.1   | 2.9%    |
| 25-30           | 27.9   | 0.9%    | 115-120 | 65.8   | 2%      |
| 30-35           | 45.5   | 1.4%    | 120-125 | 72.6   | 2.2%    |
| 35-40           | 66.2   | 2.0%    | 125-130 | 81.0   | 2.5%    |
| 40-45           | 89.9   | 2.8%    | 130-135 | 76.3   | 2.3%    |
| 45-50           | 115.7  | 3.5%    | 135-140 | 67.2   | 2.1%    |
| 50-55           | 142.2  | 4.4%    | 140-145 | 56.0   | 1.7%    |
| 55-60           | 169.1  | 5.2%    | 145-150 | 41.0   | 1.3%    |
| 60-65           | 194.8  | 6.0%    | 150-155 | 25.4   | 0.8%    |
| 65-70           | 216.9  | 6.7%    | 155-160 | 13.0   | 0.4%    |
| 70-75           | 236.3  | 7.3%    | 160-165 | 4.8    | 0.1%    |
| 75-80           | 250.8  | 7.7%    | 165-170 | 0.5    | 0%      |
| 80-85           | 258.4  | 7.9%    | 170-175 | 0.0    | 0%      |
| 85-90           | 258.7  | 7.9%    | 175-180 | 0.0    | 0%      |

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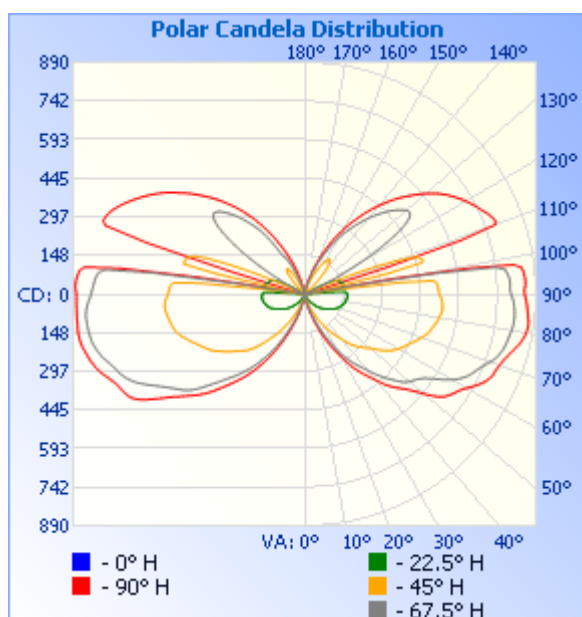
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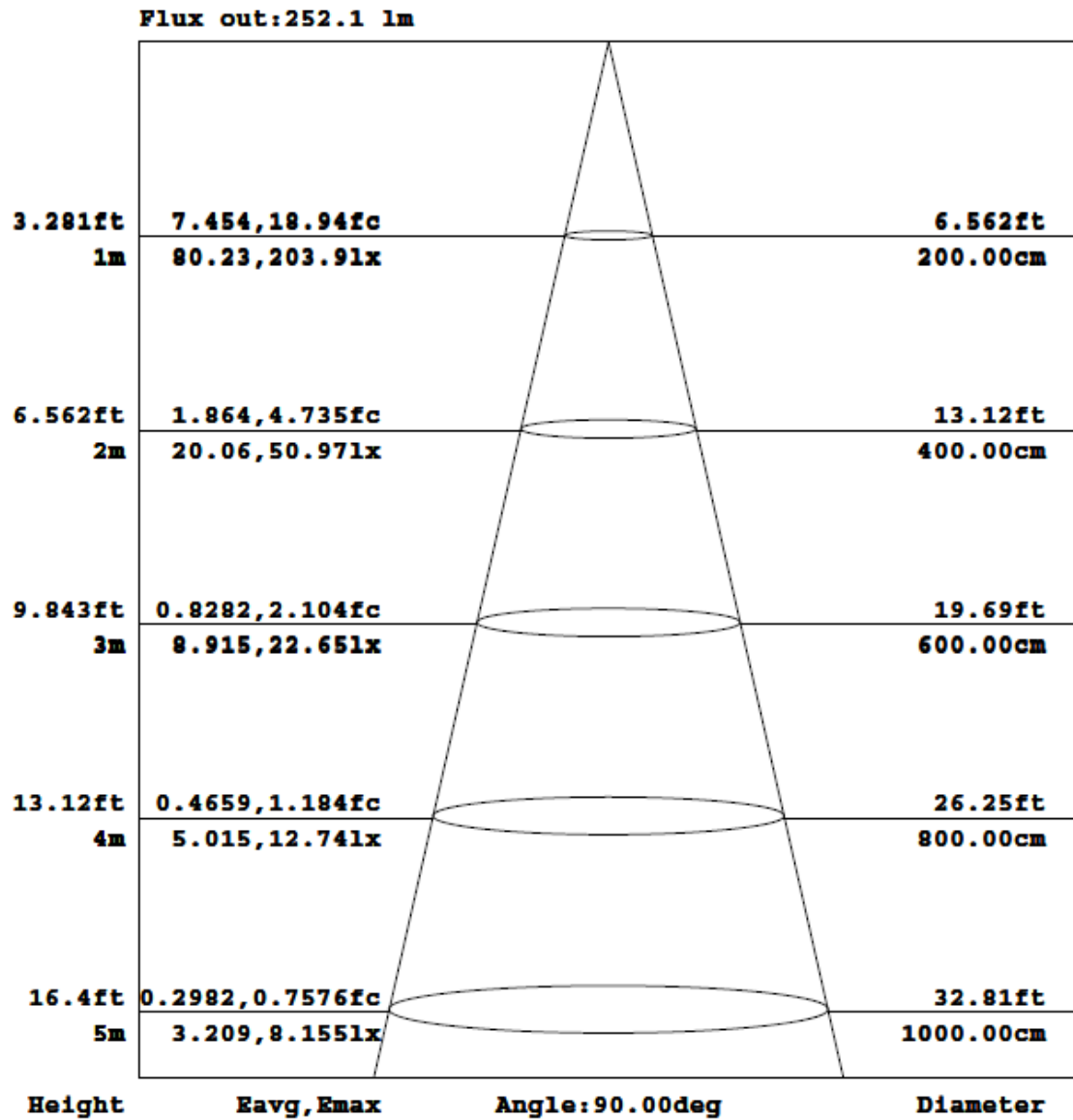
## Photometric Data



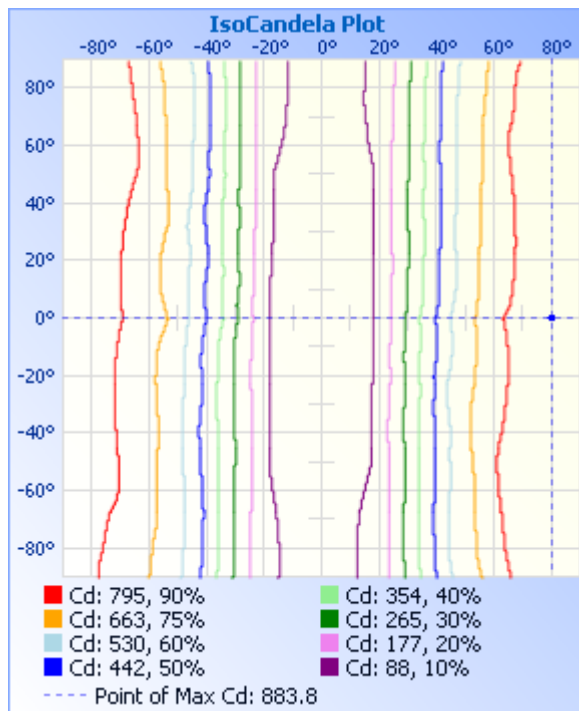
### Flood Summary

|              | Efficiency | Lumens  | Horizontal Spread | Vertical Spread |
|--------------|------------|---------|-------------------|-----------------|
| Field (10%): | 95.6%      | 3,114.3 | 62.6              | 90              |
| Beam (50%):  | 62.2%      | 2,027.4 | 40.7              | 304.6           |
| Total:       | 100%       | 3,257.4 |                   |                 |

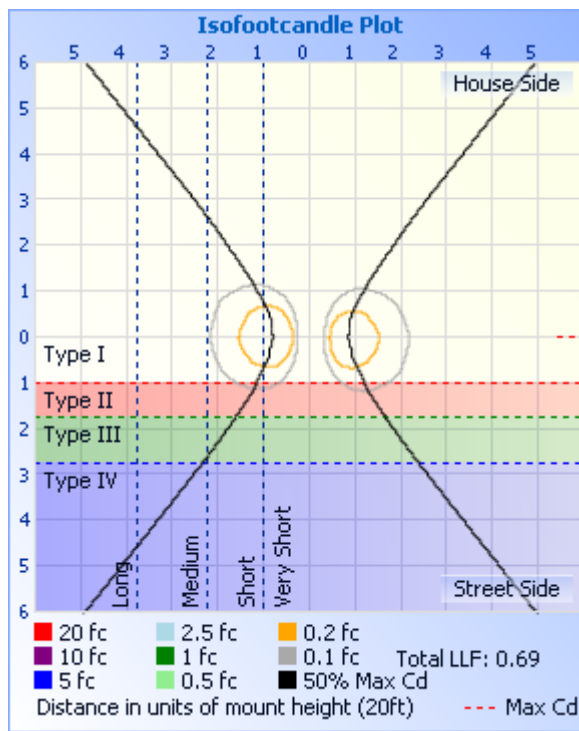
## Illuminance Plots



## ISOCANDELA DIAGRAM



## ISOLUX DIAGRAM



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### Candela Table - Type C

|    | 0 | 22.5 | 45  | 67.5 | 90  | 112.5 | 135 | 157.5 | 180 | 202.5 | 225 | 247.5 | 270 | 292.5 | 315 | 337.5 | 360 |
|----|---|------|-----|------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|
| 0  | 5 | 5    | 5   | 5    | 5   | 5     | 5   | 5     | 5   | 5     | 5   | 5     | 5   | 5     | 5   | 5     | 5   |
| 1  | 5 | 5    | 5   | 5    | 5   | 5     | 5   | 5     | 5   | 5     | 5   | 5     | 5   | 5     | 5   | 5     | 5   |
| 2  | 5 | 5    | 5   | 5    | 5   | 5     | 5   | 5     | 5   | 5     | 5   | 5     | 5   | 5     | 5   | 5     | 5   |
| 3  | 5 | 5    | 5   | 5    | 6   | 5     | 5   | 5     | 5   | 5     | 6   | 5     | 5   | 5     | 6   | 5     | 5   |
| 4  | 5 | 5    | 5   | 5    | 6   | 5     | 6   | 5     | 5   | 5     | 6   | 6     | 6   | 5     | 5   | 5     | 5   |
| 5  | 5 | 5    | 5   | 5    | 6   | 6     | 6   | 5     | 5   | 6     | 6   | 6     | 6   | 5     | 5   | 5     | 5   |
| 6  | 5 | 5    | 5   | 6    | 6   | 6     | 6   | 5     | 6   | 5     | 6   | 6     | 6   | 6     | 5   | 5     | 5   |
| 7  | 5 | 5    | 5   | 6    | 6   | 6     | 6   | 5     | 6   | 6     | 6   | 6     | 6   | 6     | 6   | 5     | 5   |
| 8  | 5 | 5    | 6   | 6    | 7   | 6     | 6   | 5     | 6   | 6     | 6   | 7     | 7   | 6     | 6   | 6     | 5   |
| 9  | 5 | 5    | 6   | 7    | 8   | 7     | 6   | 6     | 6   | 6     | 6   | 8     | 9   | 7     | 6   | 6     | 5   |
| 10 | 5 | 5    | 6   | 9    | 11  | 8     | 6   | 6     | 6   | 6     | 7   | 10    | 14  | 10    | 6   | 6     | 5   |
| 11 | 5 | 6    | 6   | 12   | 16  | 11    | 6   | 6     | 6   | 6     | 7   | 15    | 20  | 14    | 7   | 6     | 5   |
| 12 | 5 | 6    | 7   | 17   | 23  | 16    | 7   | 6     | 6   | 6     | 8   | 20    | 28  | 19    | 7   | 6     | 5   |
| 13 | 5 | 6    | 9   | 24   | 32  | 22    | 8   | 6     | 6   | 6     | 10  | 28    | 38  | 26    | 9   | 6     | 5   |
| 14 | 5 | 6    | 12  | 31   | 41  | 29    | 10  | 6     | 6   | 6     | 13  | 36    | 48  | 34    | 12  | 6     | 5   |
| 15 | 5 | 6    | 15  | 40   | 51  | 37    | 13  | 6     | 6   | 6     | 16  | 45    | 58  | 42    | 16  | 6     | 5   |
| 16 | 5 | 6    | 20  | 50   | 63  | 46    | 17  | 6     | 6   | 6     | 21  | 56    | 70  | 52    | 20  | 6     | 5   |
| 17 | 5 | 6    | 25  | 60   | 74  | 57    | 21  | 6     | 6   | 7     | 26  | 67    | 83  | 62    | 25  | 6     | 5   |
| 18 | 5 | 6    | 30  | 70   | 86  | 67    | 27  | 6     | 6   | 7     | 32  | 78    | 96  | 72    | 31  | 6     | 5   |
| 19 | 5 | 6    | 36  | 81   | 100 | 78    | 32  | 6     | 6   | 7     | 38  | 90    | 109 | 84    | 37  | 6     | 5   |
| 20 | 5 | 6    | 43  | 93   | 114 | 89    | 39  | 6     | 6   | 7     | 45  | 102   | 122 | 96    | 44  | 7     | 5   |
| 21 | 5 | 7    | 50  | 105  | 128 | 100   | 46  | 6     | 6   | 7     | 53  | 115   | 136 | 110   | 52  | 7     | 5   |
| 22 | 5 | 7    | 58  | 119  | 143 | 112   | 53  | 7     | 6   | 8     | 60  | 128   | 152 | 123   | 59  | 7     | 5   |
| 23 | 5 | 8    | 66  | 134  | 159 | 123   | 61  | 7     | 6   | 9     | 68  | 142   | 168 | 137   | 68  | 7     | 5   |
| 24 | 5 | 9    | 74  | 148  | 175 | 136   | 69  | 8     | 6   | 10    | 76  | 157   | 184 | 151   | 75  | 8     | 5   |
| 25 | 5 | 10   | 82  | 162  | 191 | 150   | 78  | 8     | 6   | 11    | 84  | 173   | 200 | 165   | 83  | 9     | 5   |
| 26 | 5 | 12   | 91  | 177  | 208 | 165   | 86  | 9     | 6   | 13    | 94  | 189   | 217 | 178   | 91  | 10    | 5   |
| 27 | 5 | 14   | 99  | 193  | 225 | 179   | 94  | 10    | 6   | 15    | 103 | 205   | 235 | 192   | 99  | 12    | 5   |
| 28 | 5 | 16   | 108 | 209  | 241 | 193   | 101 | 11    | 6   | 17    | 112 | 222   | 254 | 205   | 108 | 13    | 5   |

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|----|---|-----|-----|-----|-----|-----|-----|----|---|-----|-----|-----|-----|-----|-----|-----|---|
| 29 | 5 | 18  | 118 | 226 | 258 | 206 | 109 | 13 | 6 | 19  | 122 | 239 | 272 | 220 | 117 | 15  | 5 |
| 30 | 5 | 20  | 127 | 243 | 275 | 219 | 117 | 14 | 6 | 21  | 132 | 255 | 290 | 235 | 126 | 17  | 5 |
| 31 | 5 | 23  | 137 | 259 | 292 | 232 | 126 | 16 | 6 | 24  | 142 | 271 | 308 | 251 | 136 | 20  | 5 |
| 32 | 5 | 26  | 147 | 275 | 311 | 245 | 135 | 18 | 6 | 26  | 153 | 286 | 325 | 266 | 145 | 22  | 5 |
| 33 | 5 | 28  | 158 | 291 | 329 | 260 | 145 | 21 | 6 | 29  | 164 | 302 | 342 | 280 | 155 | 25  | 5 |
| 34 | 5 | 31  | 168 | 306 | 346 | 276 | 155 | 23 | 6 | 32  | 175 | 318 | 358 | 293 | 165 | 27  | 5 |
| 35 | 5 | 34  | 179 | 320 | 361 | 291 | 165 | 26 | 6 | 35  | 186 | 334 | 375 | 307 | 175 | 30  | 5 |
| 36 | 5 | 37  | 189 | 333 | 375 | 306 | 174 | 28 | 6 | 38  | 196 | 349 | 391 | 320 | 184 | 33  | 5 |
| 37 | 5 | 40  | 199 | 345 | 389 | 320 | 184 | 31 | 6 | 40  | 207 | 364 | 407 | 333 | 194 | 36  | 5 |
| 38 | 5 | 42  | 209 | 357 | 403 | 332 | 194 | 34 | 6 | 44  | 218 | 378 | 423 | 347 | 203 | 39  | 5 |
| 39 | 5 | 45  | 220 | 371 | 418 | 345 | 202 | 37 | 5 | 46  | 230 | 392 | 438 | 362 | 212 | 42  | 5 |
| 40 | 5 | 48  | 232 | 386 | 436 | 357 | 211 | 40 | 5 | 50  | 242 | 407 | 453 | 378 | 223 | 45  | 5 |
| 41 | 5 | 52  | 243 | 402 | 453 | 369 | 219 | 43 | 5 | 53  | 255 | 420 | 470 | 394 | 234 | 48  | 5 |
| 42 | 5 | 55  | 254 | 417 | 469 | 382 | 228 | 46 | 5 | 57  | 268 | 433 | 487 | 409 | 245 | 51  | 5 |
| 43 | 5 | 59  | 265 | 431 | 484 | 396 | 235 | 49 | 5 | 60  | 280 | 448 | 505 | 423 | 256 | 54  | 5 |
| 44 | 5 | 62  | 275 | 446 | 497 | 411 | 243 | 52 | 5 | 63  | 291 | 464 | 522 | 437 | 266 | 57  | 5 |
| 45 | 5 | 67  | 284 | 460 | 510 | 425 | 251 | 54 | 5 | 67  | 302 | 481 | 539 | 449 | 276 | 60  | 5 |
| 46 | 5 | 70  | 292 | 475 | 523 | 441 | 259 | 57 | 5 | 70  | 313 | 499 | 554 | 460 | 286 | 64  | 5 |
| 47 | 5 | 74  | 299 | 489 | 536 | 457 | 269 | 60 | 5 | 73  | 318 | 518 | 568 | 471 | 296 | 67  | 5 |
| 48 | 4 | 77  | 307 | 503 | 552 | 472 | 280 | 63 | 5 | 76  | 326 | 538 | 582 | 483 | 306 | 70  | 4 |
| 49 | 4 | 80  | 315 | 515 | 571 | 484 | 290 | 66 | 5 | 80  | 333 | 557 | 595 | 496 | 315 | 74  | 4 |
| 50 | 4 | 83  | 323 | 523 | 593 | 496 | 301 | 69 | 5 | 84  | 340 | 573 | 609 | 510 | 323 | 77  | 4 |
| 51 | 4 | 87  | 332 | 530 | 615 | 505 | 312 | 71 | 4 | 88  | 349 | 585 | 625 | 525 | 330 | 80  | 4 |
| 52 | 4 | 90  | 343 | 536 | 637 | 514 | 322 | 73 | 4 | 91  | 357 | 597 | 641 | 541 | 336 | 83  | 4 |
| 53 | 4 | 93  | 355 | 543 | 654 | 521 | 330 | 77 | 4 | 94  | 366 | 607 | 659 | 558 | 342 | 86  | 4 |
| 54 | 4 | 96  | 367 | 551 | 668 | 528 | 338 | 80 | 4 | 97  | 376 | 617 | 679 | 574 | 349 | 89  | 4 |
| 55 | 4 | 99  | 378 | 563 | 677 | 536 | 345 | 84 | 4 | 100 | 384 | 628 | 701 | 590 | 355 | 92  | 4 |
| 56 | 4 | 102 | 387 | 579 | 685 | 548 | 352 | 87 | 4 | 103 | 392 | 640 | 723 | 603 | 361 | 94  | 4 |
| 57 | 4 | 105 | 396 | 598 | 693 | 561 | 358 | 90 | 4 | 106 | 401 | 652 | 744 | 614 | 368 | 97  | 4 |
| 58 | 4 | 108 | 404 | 617 | 699 | 576 | 364 | 93 | 4 | 109 | 410 | 666 | 761 | 623 | 375 | 99  | 4 |
| 59 | 4 | 112 | 412 | 637 | 709 | 591 | 370 | 95 | 3 | 112 | 418 | 680 | 774 | 632 | 384 | 101 | 4 |
| 60 | 3 | 115 | 419 | 656 | 721 | 605 | 376 | 97 | 3 | 115 | 425 | 696 | 782 | 640 | 392 | 103 | 3 |

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|    |   |     |     |     |     |     |     |     |   |     |     |     |     |     |     |     |   |
|----|---|-----|-----|-----|-----|-----|-----|-----|---|-----|-----|-----|-----|-----|-----|-----|---|
| 61 | 3 | 119 | 425 | 673 | 733 | 619 | 382 | 99  | 3 | 118 | 431 | 711 | 788 | 649 | 401 | 105 | 3 |
| 62 | 3 | 122 | 430 | 686 | 747 | 632 | 389 | 101 | 3 | 121 | 437 | 726 | 792 | 658 | 408 | 108 | 3 |
| 63 | 3 | 125 | 436 | 698 | 759 | 644 | 397 | 103 | 3 | 124 | 443 | 739 | 796 | 668 | 416 | 110 | 3 |
| 64 | 3 | 128 | 442 | 707 | 769 | 653 | 404 | 106 | 3 | 128 | 449 | 750 | 800 | 679 | 423 | 113 | 3 |
| 65 | 3 | 131 | 448 | 714 | 778 | 662 | 411 | 107 | 3 | 131 | 456 | 760 | 805 | 690 | 429 | 115 | 3 |
| 66 | 3 | 134 | 454 | 722 | 784 | 671 | 418 | 109 | 3 | 135 | 463 | 767 | 813 | 702 | 436 | 116 | 3 |
| 67 | 3 | 137 | 461 | 729 | 788 | 679 | 423 | 111 | 3 | 138 | 470 | 774 | 821 | 713 | 441 | 118 | 3 |
| 68 | 3 | 139 | 469 | 738 | 791 | 687 | 430 | 113 | 2 | 141 | 477 | 779 | 831 | 723 | 446 | 119 | 3 |
| 69 | 3 | 141 | 476 | 749 | 793 | 695 | 436 | 115 | 2 | 144 | 484 | 786 | 839 | 734 | 451 | 121 | 3 |
| 70 | 3 | 144 | 483 | 760 | 797 | 703 | 442 | 116 | 2 | 146 | 491 | 792 | 847 | 745 | 455 | 123 | 3 |
| 71 | 2 | 146 | 489 | 771 | 802 | 710 | 448 | 118 | 2 | 148 | 498 | 800 | 853 | 755 | 459 | 125 | 2 |
| 72 | 2 | 147 | 495 | 779 | 808 | 720 | 454 | 119 | 2 | 150 | 505 | 809 | 858 | 763 | 463 | 127 | 2 |
| 73 | 2 | 149 | 499 | 784 | 816 | 728 | 459 | 120 | 2 | 152 | 511 | 816 | 864 | 771 | 467 | 129 | 2 |
| 74 | 2 | 151 | 503 | 791 | 824 | 737 | 464 | 121 | 2 | 153 | 516 | 823 | 868 | 778 | 471 | 130 | 2 |
| 75 | 2 | 153 | 507 | 794 | 831 | 745 | 467 | 122 | 2 | 155 | 520 | 828 | 871 | 783 | 475 | 131 | 2 |
| 76 | 2 | 155 | 511 | 798 | 840 | 753 | 470 | 124 | 2 | 156 | 523 | 833 | 876 | 788 | 478 | 132 | 2 |
| 77 | 2 | 157 | 515 | 800 | 848 | 760 | 471 | 125 | 1 | 157 | 526 | 838 | 880 | 793 | 482 | 133 | 2 |
| 78 | 2 | 158 | 518 | 803 | 855 | 766 | 473 | 127 | 1 | 159 | 527 | 840 | 882 | 796 | 486 | 133 | 2 |
| 79 | 1 | 159 | 521 | 805 | 860 | 769 | 475 | 128 | 1 | 160 | 529 | 841 | 883 | 800 | 488 | 134 | 1 |
| 80 | 1 | 160 | 525 | 808 | 864 | 770 | 477 | 129 | 1 | 161 | 532 | 843 | 884 | 802 | 490 | 134 | 1 |
| 81 | 1 | 161 | 528 | 810 | 867 | 770 | 479 | 130 | 1 | 162 | 534 | 844 | 883 | 802 | 492 | 134 | 1 |
| 82 | 1 | 161 | 531 | 811 | 869 | 767 | 480 | 131 | 1 | 163 | 536 | 845 | 882 | 802 | 493 | 134 | 1 |
| 83 | 1 | 162 | 533 | 812 | 868 | 763 | 481 | 132 | 1 | 163 | 539 | 845 | 881 | 802 | 494 | 134 | 1 |
| 84 | 1 | 163 | 533 | 812 | 865 | 759 | 483 | 132 | 1 | 164 | 540 | 846 | 881 | 801 | 495 | 134 | 1 |
| 85 | 1 | 164 | 533 | 811 | 862 | 757 | 484 | 133 | 1 | 165 | 541 | 844 | 880 | 800 | 496 | 135 | 1 |
| 86 | 1 | 164 | 532 | 809 | 859 | 756 | 484 | 134 | 0 | 165 | 540 | 842 | 879 | 800 | 496 | 134 | 1 |
| 87 | 0 | 165 | 529 | 807 | 856 | 755 | 484 | 133 | 0 | 165 | 537 | 838 | 879 | 798 | 497 | 134 | 0 |
| 88 | 0 | 164 | 527 | 804 | 854 | 753 | 483 | 132 | 0 | 164 | 534 | 832 | 879 | 796 | 495 | 133 | 0 |
| 89 | 0 | 164 | 523 | 799 | 850 | 750 | 482 | 131 | 0 | 163 | 530 | 826 | 879 | 792 | 492 | 133 | 0 |
| 90 | 0 | 163 | 518 | 794 | 846 | 749 | 480 | 130 | 0 | 162 | 526 | 822 | 878 | 790 | 489 | 132 | 0 |
| 91 | 0 | 162 | 515 | 791 | 845 | 751 | 481 | 129 | 0 | 161 | 523 | 818 | 880 | 789 | 488 | 131 | 0 |
| 92 | 0 | 161 | 515 | 791 | 848 | 752 | 481 | 127 | 0 | 160 | 522 | 814 | 883 | 787 | 489 | 129 | 0 |

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Tel: 8620-3229 0320 Fax: 8620-32290422 <http://www.standard-tech.com>

|     |   |     |     |     |     |     |     |     |   |     |     |     |     |     |     |     |   |
|-----|---|-----|-----|-----|-----|-----|-----|-----|---|-----|-----|-----|-----|-----|-----|-----|---|
| 93  | 0 | 159 | 514 | 791 | 850 | 754 | 480 | 73  | 0 | 144 | 520 | 811 | 882 | 786 | 487 | 114 | 0 |
| 94  | 0 | 112 | 512 | 790 | 850 | 753 | 477 | 3   | 0 | 24  | 516 | 808 | 880 | 783 | 484 | 13  | 0 |
| 95  | 0 | 11  | 508 | 787 | 848 | 751 | 469 | 1   | 0 | 3   | 506 | 804 | 875 | 778 | 477 | 2   | 0 |
| 96  | 0 | 3   | 498 | 782 | 845 | 748 | 376 | 14  | 0 | 7   | 402 | 797 | 870 | 772 | 379 | 7   | 0 |
| 97  | 0 | 7   | 371 | 776 | 840 | 739 | 134 | 35  | 0 | 76  | 146 | 774 | 853 | 754 | 127 | 93  | 0 |
| 98  | 0 | 105 | 119 | 742 | 812 | 645 | 14  | 102 | 0 | 157 | 15  | 591 | 716 | 571 | 14  | 123 | 0 |
| 99  | 0 | 155 | 16  | 513 | 641 | 360 | 7   | 122 | 0 | 158 | 8   | 260 | 420 | 249 | 7   | 123 | 0 |
| 100 | 0 | 158 | 8   | 200 | 338 | 88  | 6   | 121 | 0 | 158 | 9   | 43  | 130 | 38  | 7   | 122 | 0 |
| 101 | 0 | 158 | 7   | 30  | 92  | 17  | 7   | 120 | 0 | 157 | 16  | 15  | 25  | 14  | 15  | 120 | 0 |
| 102 | 0 | 157 | 10  | 14  | 20  | 12  | 25  | 119 | 0 | 156 | 100 | 12  | 16  | 11  | 144 | 119 | 0 |
| 103 | 0 | 155 | 94  | 11  | 15  | 10  | 169 | 118 | 0 | 155 | 349 | 10  | 15  | 9   | 362 | 117 | 0 |
| 104 | 0 | 154 | 332 | 10  | 15  | 9   | 372 | 117 | 0 | 154 | 478 | 8   | 16  | 9   | 451 | 116 | 0 |
| 105 | 0 | 153 | 466 | 9   | 17  | 9   | 443 | 115 | 0 | 153 | 480 | 8   | 21  | 9   | 455 | 114 | 0 |
| 106 | 0 | 150 | 473 | 9   | 23  | 9   | 446 | 112 | 0 | 151 | 477 | 9   | 59  | 9   | 452 | 111 | 0 |
| 107 | 0 | 149 | 469 | 10  | 71  | 10  | 442 | 110 | 0 | 149 | 474 | 10  | 302 | 11  | 449 | 109 | 0 |
| 108 | 0 | 147 | 457 | 12  | 332 | 11  | 430 | 108 | 0 | 147 | 465 | 11  | 636 | 11  | 446 | 107 | 0 |
| 109 | 0 | 145 | 428 | 13  | 636 | 12  | 402 | 106 | 0 | 145 | 447 | 12  | 810 | 11  | 437 | 104 | 0 |
| 110 | 0 | 143 | 372 | 16  | 780 | 14  | 348 | 104 | 0 | 143 | 404 | 14  | 825 | 12  | 418 | 102 | 0 |
| 111 | 0 | 141 | 298 | 17  | 785 | 15  | 277 | 102 | 0 | 141 | 340 | 15  | 822 | 13  | 382 | 100 | 0 |
| 112 | 0 | 137 | 218 | 19  | 781 | 19  | 203 | 99  | 0 | 138 | 266 | 16  | 817 | 15  | 327 | 98  | 0 |
| 113 | 0 | 133 | 140 | 22  | 774 | 19  | 131 | 94  | 1 | 134 | 188 | 17  | 811 | 16  | 261 | 95  | 0 |
| 114 | 0 | 127 | 76  | 28  | 766 | 23  | 73  | 87  | 1 | 129 | 114 | 18  | 803 | 17  | 197 | 91  | 0 |
| 115 | 0 | 116 | 34  | 42  | 757 | 30  | 34  | 76  | 1 | 119 | 56  | 19  | 793 | 18  | 133 | 86  | 0 |
| 116 | 0 | 101 | 17  | 70  | 749 | 45  | 18  | 63  | 1 | 105 | 24  | 23  | 783 | 19  | 80  | 78  | 0 |
| 117 | 0 | 83  | 11  | 111 | 741 | 70  | 11  | 49  | 1 | 88  | 13  | 31  | 772 | 21  | 42  | 68  | 0 |
| 118 | 0 | 64  | 9   | 163 | 732 | 107 | 9   | 37  | 1 | 69  | 10  | 47  | 761 | 25  | 21  | 57  | 0 |
| 119 | 0 | 46  | 7   | 218 | 724 | 152 | 7   | 25  | 0 | 51  | 8   | 76  | 749 | 34  | 12  | 46  | 0 |
| 120 | 0 | 30  | 7   | 272 | 715 | 200 | 6   | 16  | 0 | 34  | 7   | 114 | 738 | 48  | 9   | 35  | 0 |
| 121 | 0 | 17  | 6   | 323 | 706 | 248 | 6   | 10  | 1 | 20  | 6   | 158 | 726 | 71  | 8   | 25  | 0 |
| 122 | 0 | 9   | 6   | 371 | 696 | 294 | 6   | 6   | 1 | 11  | 7   | 203 | 714 | 102 | 7   | 16  | 0 |
| 123 | 0 | 5   | 6   | 413 | 686 | 337 | 7   | 4   | 1 | 6   | 7   | 248 | 702 | 139 | 7   | 10  | 0 |
| 124 | 0 | 4   | 6   | 448 | 676 | 374 | 7   | 3   | 1 | 4   | 7   | 290 | 689 | 178 | 7   | 6   | 0 |

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Tel: 8620-3229 0320

Fax: 8620-32290422

<http://www.standard-tech.com>

|     |   |    |     |     |     |     |     |    |   |   |     |     |     |     |     |   |   |
|-----|---|----|-----|-----|-----|-----|-----|----|---|---|-----|-----|-----|-----|-----|---|---|
| 125 | 0 | 3  | 6   | 477 | 665 | 408 | 7   | 2  | 1 | 3 | 8   | 329 | 676 | 216 | 7   | 4 | 0 |
| 126 | 0 | 3  | 7   | 497 | 654 | 434 | 7   | 2  | 1 | 3 | 8   | 365 | 662 | 253 | 7   | 3 | 0 |
| 127 | 0 | 3  | 7   | 508 | 642 | 455 | 8   | 2  | 1 | 3 | 9   | 397 | 649 | 288 | 7   | 3 | 0 |
| 128 | 1 | 2  | 8   | 512 | 628 | 470 | 9   | 2  | 1 | 3 | 9   | 424 | 634 | 320 | 6   | 2 | 1 |
| 129 | 0 | 2  | 9   | 509 | 614 | 478 | 10  | 2  | 1 | 2 | 9   | 444 | 618 | 348 | 6   | 2 | 0 |
| 130 | 1 | 2  | 11  | 502 | 600 | 480 | 12  | 2  | 0 | 2 | 10  | 458 | 604 | 372 | 6   | 2 | 1 |
| 131 | 1 | 2  | 15  | 493 | 586 | 476 | 15  | 2  | 0 | 2 | 10  | 466 | 590 | 390 | 6   | 2 | 1 |
| 132 | 1 | 2  | 21  | 483 | 570 | 469 | 21  | 2  | 0 | 2 | 12  | 467 | 574 | 404 | 7   | 1 | 1 |
| 133 | 0 | 2  | 32  | 472 | 555 | 460 | 30  | 2  | 0 | 2 | 14  | 463 | 559 | 412 | 9   | 1 | 0 |
| 134 | 0 | 2  | 46  | 461 | 540 | 451 | 41  | 2  | 1 | 2 | 19  | 456 | 544 | 415 | 11  | 1 | 0 |
| 135 | 0 | 2  | 62  | 449 | 525 | 441 | 55  | 2  | 0 | 2 | 26  | 446 | 529 | 413 | 15  | 1 | 0 |
| 136 | 0 | 2  | 80  | 435 | 509 | 429 | 70  | 2  | 0 | 2 | 36  | 434 | 514 | 408 | 21  | 1 | 0 |
| 137 | 0 | 2  | 97  | 422 | 493 | 416 | 85  | 2  | 0 | 2 | 48  | 423 | 498 | 400 | 29  | 1 | 0 |
| 138 | 0 | 2  | 113 | 408 | 477 | 403 | 100 | 3  | 0 | 2 | 62  | 410 | 482 | 391 | 39  | 1 | 0 |
| 139 | 0 | 3  | 128 | 394 | 461 | 390 | 112 | 3  | 0 | 2 | 76  | 396 | 466 | 379 | 49  | 1 | 0 |
| 140 | 1 | 4  | 140 | 380 | 444 | 376 | 124 | 4  | 0 | 3 | 88  | 380 | 450 | 367 | 60  | 1 | 1 |
| 141 | 0 | 6  | 151 | 366 | 427 | 362 | 134 | 5  | 0 | 3 | 98  | 364 | 434 | 355 | 70  | 1 | 0 |
| 142 | 0 | 8  | 158 | 351 | 410 | 348 | 143 | 7  | 0 | 3 | 107 | 348 | 417 | 341 | 78  | 1 | 0 |
| 143 | 0 | 10 | 162 | 337 | 393 | 334 | 149 | 9  | 0 | 4 | 113 | 332 | 401 | 327 | 86  | 2 | 0 |
| 144 | 1 | 12 | 164 | 323 | 375 | 321 | 154 | 11 | 0 | 5 | 117 | 316 | 383 | 313 | 92  | 2 | 1 |
| 145 | 1 | 13 | 162 | 309 | 357 | 308 | 155 | 13 | 0 | 5 | 118 | 299 | 366 | 298 | 97  | 3 | 1 |
| 146 | 1 | 14 | 158 | 294 | 341 | 295 | 153 | 15 | 1 | 3 | 117 | 278 | 349 | 283 | 100 | 3 | 1 |
| 147 | 1 | 15 | 152 | 279 | 324 | 282 | 150 | 17 | 0 | 1 | 114 | 255 | 331 | 269 | 100 | 1 | 1 |
| 148 | 1 | 16 | 145 | 265 | 307 | 269 | 144 | 18 | 0 | 1 | 109 | 228 | 313 | 254 | 100 | 1 | 1 |
| 149 | 1 | 15 | 137 | 249 | 290 | 256 | 138 | 19 | 0 | 0 | 102 | 200 | 294 | 238 | 97  | 1 | 1 |
| 150 | 1 | 15 | 129 | 235 | 274 | 243 | 132 | 20 | 0 | 0 | 93  | 177 | 276 | 223 | 93  | 1 | 1 |
| 151 | 1 | 4  | 120 | 219 | 257 | 229 | 126 | 21 | 0 | 0 | 83  | 166 | 259 | 207 | 88  | 1 | 1 |
| 152 | 0 | 1  | 111 | 203 | 239 | 215 | 121 | 21 | 0 | 0 | 73  | 159 | 241 | 191 | 83  | 1 | 0 |
| 153 | 0 | 1  | 102 | 188 | 221 | 200 | 115 | 21 | 0 | 0 | 62  | 151 | 224 | 176 | 76  | 1 | 0 |
| 154 | 0 | 1  | 93  | 174 | 204 | 185 | 109 | 20 | 0 | 0 | 51  | 138 | 207 | 160 | 70  | 0 | 0 |
| 155 | 0 | 0  | 84  | 160 | 187 | 170 | 103 | 20 | 0 | 0 | 42  | 124 | 189 | 145 | 63  | 0 | 0 |
| 156 | 0 | 0  | 75  | 146 | 170 | 155 | 97  | 19 | 0 | 0 | 32  | 111 | 173 | 131 | 56  | 0 | 0 |

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Tel: 8620-3229 0320

Fax: 8620-32290422

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|-----|---|---|----|-----|-----|-----|----|----|---|---|----|----|-----|-----|----|---|---|
| 157 | 0 | 0 | 67 | 132 | 154 | 140 | 90 | 17 | 0 | 0 | 21 | 99 | 157 | 118 | 48 | 0 | 0 |
| 158 | 0 | 0 | 59 | 119 | 138 | 126 | 83 | 3  | 0 | 0 | 1  | 86 | 141 | 105 | 42 | 0 | 0 |
| 159 | 0 | 0 | 51 | 106 | 123 | 113 | 76 | 1  | 0 | 0 | 0  | 75 | 127 | 94  | 35 | 0 | 0 |
| 160 | 0 | 0 | 43 | 94  | 109 | 100 | 69 | 1  | 0 | 0 | 0  | 64 | 111 | 82  | 29 | 0 | 0 |
| 161 | 0 | 0 | 35 | 82  | 95  | 88  | 61 | 0  | 0 | 0 | 0  | 53 | 97  | 71  | 4  | 0 | 0 |
| 162 | 0 | 0 | 28 | 70  | 83  | 77  | 54 | 0  | 0 | 0 | 1  | 43 | 83  | 61  | 1  | 0 | 0 |
| 163 | 0 | 0 | 3  | 59  | 71  | 66  | 46 | 0  | 0 | 0 | 1  | 23 | 71  | 51  | 0  | 0 | 0 |
| 164 | 0 | 0 | 1  | 49  | 59  | 56  | 38 | 0  | 0 | 0 | 1  | 0  | 59  | 41  | 0  | 0 | 0 |
| 165 | 0 | 0 | 0  | 39  | 49  | 45  | 29 | 0  | 0 | 0 | 0  | 0  | 47  | 27  | 0  | 0 | 0 |
| 166 | 0 | 0 | 0  | 29  | 38  | 36  | 4  | 0  | 0 | 0 | 0  | 0  | 36  | 2   | 0  | 0 | 0 |
| 167 | 0 | 0 | 0  | 1   | 28  | 25  | 0  | 0  | 0 | 0 | 0  | 0  | 1   | 0   | 0  | 0 | 0 |
| 168 | 0 | 0 | 0  | 0   | 0   | 0   | 0  | 0  | 0 | 0 | 0  | 0  | 0   | 0   | 0  | 0 | 0 |
| 169 | 0 | 0 | 0  | 0   | 0   | 0   | 0  | 0  | 0 | 0 | 0  | 1  | 0   | 0   | 0  | 0 | 0 |
| 170 | 0 | 0 | 0  | 0   | 0   | 0   | 0  | 0  | 0 | 0 | 0  | 0  | 0   | 1   | 0  | 0 | 0 |
| 171 | 0 | 0 | 0  | 0   | 0   | 0   | 0  | 0  | 0 | 0 | 0  | 0  | 1   | 1   | 0  | 0 | 0 |
| 172 | 0 | 0 | 0  | 0   | 0   | 1   | 0  | 0  | 0 | 0 | 0  | 0  | 1   | 1   | 0  | 0 | 0 |
| 173 | 0 | 0 | 0  | 0   | 0   | 0   | 0  | 0  | 0 | 0 | 0  | 0  | 1   | 0   | 0  | 0 | 0 |
| 174 | 0 | 0 | 0  | 0   | 0   | 0   | 0  | 0  | 0 | 0 | 0  | 0  | 0   | 0   | 0  | 0 | 0 |
| 175 | 0 | 0 | 0  | 0   | 0   | 0   | 0  | 0  | 0 | 0 | 0  | 0  | 0   | 0   | 0  | 0 | 0 |
| 176 | 0 | 0 | 0  | 0   | 0   | 0   | 0  | 0  | 0 | 0 | 0  | 0  | 0   | 0   | 0  | 0 | 0 |
| 177 | 0 | 0 | 0  | 0   | 0   | 0   | 0  | 0  | 0 | 0 | 0  | 0  | 0   | 0   | 0  | 0 | 0 |
| 178 | 0 | 0 | 0  | 0   | 0   | 0   | 0  | 0  | 0 | 0 | 0  | 0  | 0   | 0   | 0  | 0 | 0 |
| 179 | 0 | 0 | 0  | 0   | 0   | 0   | 0  | 0  | 0 | 0 | 0  | 0  | 0   | 0   | 0  | 0 | 0 |
| 180 | 0 | 0 | 0  | 0   | 0   | 0   | 0  | 0  | 0 | 0 | 0  | 0  | 0   | 0   | 0  | 0 | 0 |

**3. Test Equipment**

| Equipment ID                                   | Equipment Name                  | Last Calibration Date | Next Calibration Date |
|------------------------------------------------|---------------------------------|-----------------------|-----------------------|
| EE-09                                          | Goniophotometer system          | 2015-07-01            | 2016-06-30            |
| D908S                                          | Standard Lamp                   | 2015-07-01            | 2016-06-30            |
| PF210                                          | Power Meter for Goniophotometer | 2015-07-01            | 2016-06-30            |
| Uncertainty                                    |                                 |                       |                       |
| Photometric Measurement (Sphere):1.74%         |                                 |                       |                       |
| Chromaticity Measurement(Sphere):14.3K         |                                 |                       |                       |
| Photometric Measurement(Goniophotometer):1.62% |                                 |                       |                       |

**\*\*\*\*\* END OF DATASHEET PACKAGE \*\*\*\*\***