

PHILIPS LIGHTOLIER

Downlighting

LyteProfile

6" Round downlight
and Lensed wall wash



Project: _____
Location: _____
Cat.No: _____
Type: _____
Lamps: _____ Qty: _____
Notes: _____

LyteProfile LED Downlights are designed for new construction and include downlight and wall wash distributions. They are highly efficient, provide a full 60° cutoff, and feature an impressively, shallow 4.5" housing.

Complete Product = Frame-in kit + Light engine + Reflector Order each separately

Ordering guide: Frame-in kit¹

Example: P6RD20NZ101EM

Series	Style	Lumens	Installation	Dimming ²	Input voltage	Options
P6R	D	☐	N	Z10	☐	☐
P6R LyteProfile 6" Round	D Downlight	10 1,000 lm	N Non-IC New construction	Z10 0-10V Dimming	U Universal (120/277v)	EM Emergency
		15 1,500 lm				
		20 2,000 lm	N Non-IC New construction	Z10 0-10V Dimming	1 120V	
		10 1,000 lm 15 1,500 lm 20 2,000 lm			2 277V	
			N Non-IC New construction	Z10 0-10V Dimming	3 347V	

Ordering guide: Light engine

Example: P6RD835

Series	Style	CRI	CCT
P6R	D	8	☐
P6R LyteProfile 6" Round	D Downlight	8 80 CRI	27 2700K
			30 3000K
			35 3500K
			40 4000K

Ordering guide: Reflector

Example: P6RDDP

Series	Style	Reflector	Flange
P6R	☐	☐	☐
P6R LyteProfile 6" Round	D Downlight LW Lensed wall wash	CL Clear	Blank White (painted)
		CC Comfort clear	P Polished (matches aperture)
		D Clear diffuse (applied)	
		W White (painted)	Blank White (painted)

1. Mounting Bars need to be ordered separately, see Options and Accessories for Mounting Bar options.

2. For Lutron dimming, please consult factory.

Note: Refer to page 3 for Energy Star certifications.

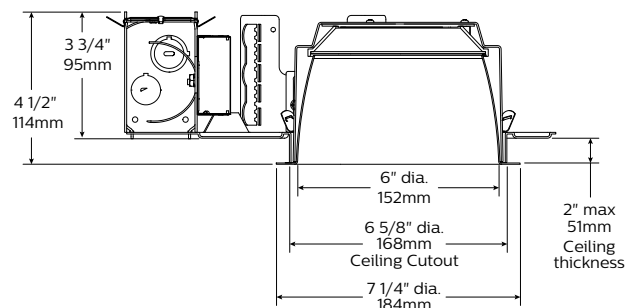


P6R LyteProfile 6" Round

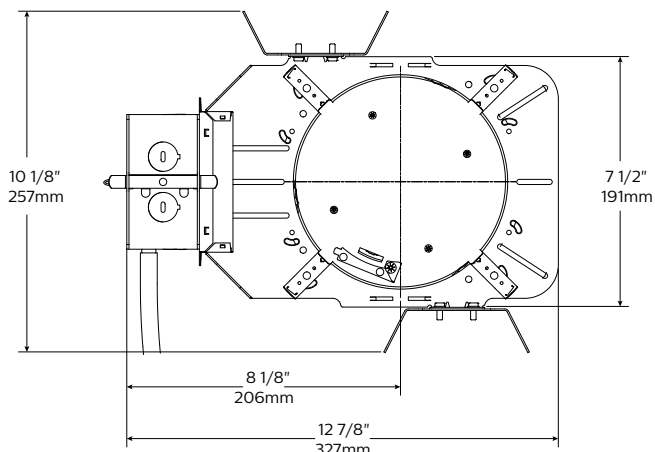
Commercial downlight and lensed wall wash

Frame-in kit

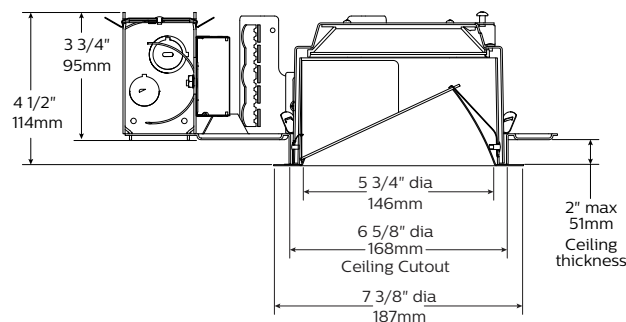
Downlight side view



Top view



Lensed wall wash side view



Features

New construction

Mounting frame: Galvanized stamped steel for dry or plaster ceilings.

Mounting brackets: Galvanized Steel. Adjustable through aperture. Use lathing channel (3/4" or 1 1/2"), 1/2" EMT, or optional mounting bars. See Options and Accessories for mounting bar options.

Quick-ship

Philips is committed to having the most common items in stock, please refer to our Smart Service guide for details.

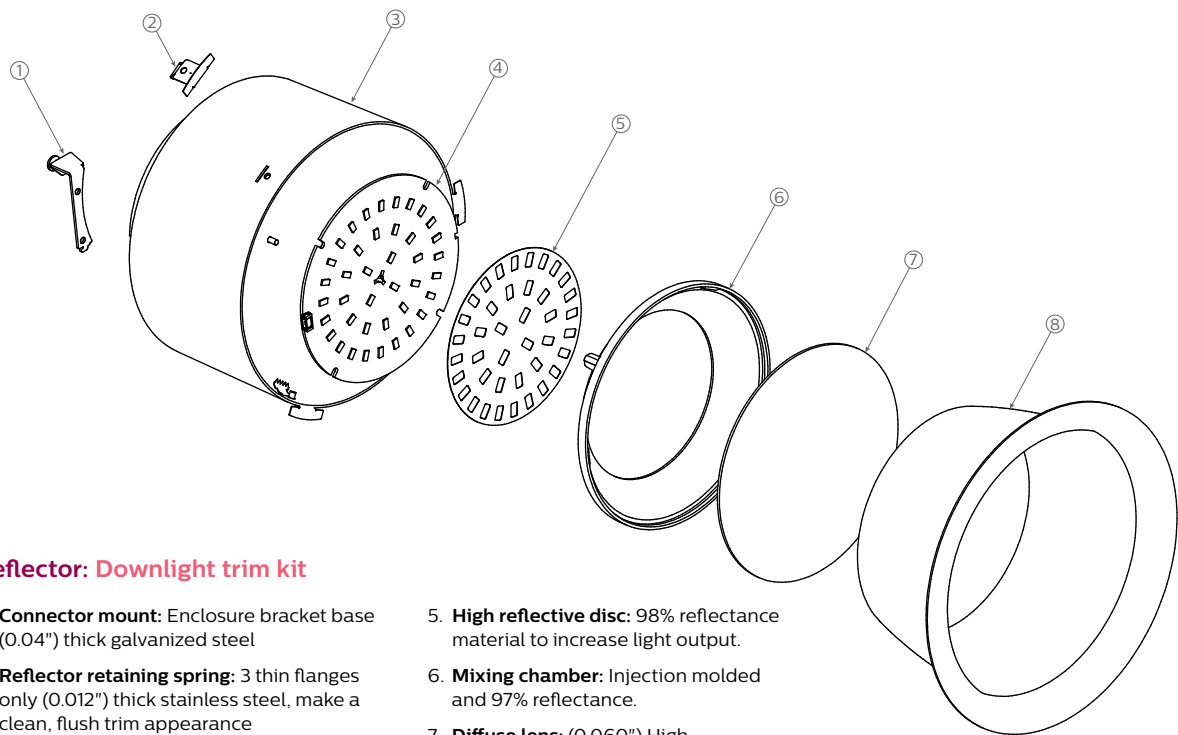
Electrical

Frame-in kit Electrical specifications	Input volts	Input freq.	Input current	LED drive current*	Input power*	LED power	THD factor	Power factor
P6RD10NZ10U 1000lm w/O-10V dimming	120V	50/60Hz	0.094A	308mA	11W	9W	<20%	>0.9
	277V	50/60Hz	0.047A	308mA	11W	9W	<20%	>0.9
P6RD15NZ10U 1500lm w/O-10V dimming	120V	50/60Hz	0.184A	489mA	17.5W	14W	<20%	>0.9
	277V	50/60Hz	0.072A	489mA	17.5W	14W	<20%	>0.9
P6RD20NZ101 2000lm w/O-10V dimming	120V	50/60Hz	0.211A	659mA	25W	19W	<20%	>0.9
	277V	50/60Hz	0.097A	648mA	25W	19.5W	<20%	>0.9
P6RD10NZ103 1000lm w/O-10V dimming	347V	50/60Hz	0.041A	306mA	13W	9W	<20%	>0.9
P6RD15NZ103 1500lm w/O-10V dimming	347V	50/60Hz	0.059A	479mA	20W	14W	<20%	>0.9
P6RD20NZ103 2000lm w/O-10V dimming	347V	50/60Hz	0.086A	690mA	27W	20W	<20%	>0.9

* +/- 5%

P6R LyteProfile 6" Round

Commercial downlight



Reflector: Downlight trim kit

1. **Connector mount:** Enclosure bracket base (0.04") thick galvanized steel
2. **Reflector retaining spring:** 3 thin flanges only (0.012") thick stainless steel, make a clean, flush trim appearance
3. **Housing:** Formed (0.05") thick aluminum provides integrated thermal management allowing for a low profile at less than 4½" tall.
4. **LED Board:** High efficient Philips mid-flux LEDs.
5. **High reflective disc:** 98% reflectance material to increase light output.
6. **Mixing chamber:** Injection molded and 97% reflectance.
7. **Diffuse lens:** (0.060") High transmission opal lens provides an even source of illumination.
8. **Reflector:** (0.040") Aluminum. Provides 60° cutoff to source.

Features

Ceiling cutout: 6 5/8" (168mm).

Depth: 4 1/2" (114 mm) including light engine.

Power connection: Attaches to light engine via push-in connector (on frame). Removable cover provides access.

Junction box: 2" x 4" x 3 1/2" (22cu. in.) cULus listed for 90° Celsius. Supply conductor .048" thick galvanized steel. Allows inspection from below.

Thermal protector: The 2000 lumen fixture is thermally protected. The 1000 and 1500 lumen fixtures are inherently protected. Meets NEC & cULus requirements. Do not install insulation above or within 3" of luminaire.

Thermal Management: Thermal design ensures specified performance levels are maintained.

Options and accessories

Dimming capability: 0-10V dimming. See LED-DIM specification sheet.

Emergency capability: Integral; Add "EM" suffix. See LED-EM spec sheet.

Mounting bars:

1950	18" long (set of 2)
1951	27" long (set of 2)
7994	Wood joist telescoping mounting bars (minimum 13 1/4" and maximum 24 1/2")

T-Bar anchor clips:

1956	Set of 4 for use with 18" or 27" mounting bars
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Energy Star

All New Construction non-IC (N) frame-in kit and trims are Energy Star certified except for the following:

- Trims: **P6RLWCC, P6RLWCCP, P6RLWW** with the 1000lm frame (**P6RD10NZ10U**)
- Emergency configurations
- 347V configurations

Electrical

Electronic power supply: RoHS compliant Class 2 power unit for use in a damp or dry location. Class A sound rated unit tolerates sustained open circuit and short circuit output conditions without damage. Complies with FCC rules per Title 47 CFR Part 15 Non-Consumer (Class A) for EMI/RFI (conducted and radiated). Intended for use with 0-10V DC type dimmers. See LED-DIM spec sheet for latest dimming switch compatibility.

Lifetime: Expected lifetime 50,000 hours and backed by a 5-year warranty. (see Philips.com/warranties for details)

Labels

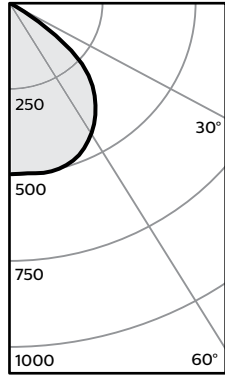
cULus. Suitable for wet location.

P6R LyteProfile 6" Round

Commercial downlight

Downlight: 1,000lm

Candela Curves



Frame: P6RD10NZ10U
Light engine: P6RD835
Trim: P6RDCL

Angle	Mean CP	Lumens
0	282	
5	280	27
10	276	
15	269	76
20	259	
25	247	113
30	230	
35	209	119
40	184	
45	157	89
50	129	
55	101	48
60	74	
65	49	20
70	28	
75	18	5
80	12	
85	4	0
90	0	

Single unit data

Height to Lighted Plane	Initial Center Beam Foot-Candles	Beam Dia. (ft)*
5'	20	6.5'
6'	14	7.8'
7'	10	9.1'
8'	8	10.4'
9'	6	11.7'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial Center Beam Foot-Candles	Watts per Sq. Ft.
5'	41.9	0.47
6'	27.5	0.31
7'	19.6	0.22
8'	16.4	0.19
9'	13.1	0.15

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Coefficients of utilization

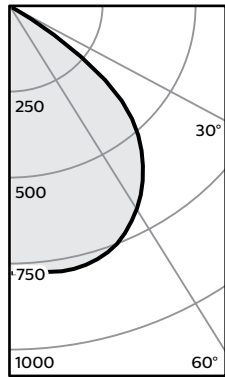
Ceiling	80%				70%		50%		30%		0%
Wall	70	50	30	10	50	10	50	10	50	10	0
RCR	Zonal cavity method - Effective floor reflectance = 20%										
Room Cavity Ratio	0	119	119	119	119	116	116	111	111	106	106
	1	112	109	106	103	107	102	103	98	99	95
	2	105	99	94	90	97	89	94	87	91	85
	3	98	90	84	79	88	78	86	77	83	76
	4	91	82	75	69	80	69	78	68	76	67
	5	85	74	67	62	73	61	71	61	70	60
	6	79	68	61	55	67	55	65	55	64	54
	7	74	62	55	50	62	50	60	49	59	49
	8	69	57	50	45	57	45	56	45	54	44
	9	65	53	46	41	52	41	51	41	50	40
	10	61	49	42	37	49	37	48	37	47	37

Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	339	35.5%
0-40	644	67.4%
0-60	952	99.6%
0-90	956	100.0%

Downlight: 1,500lm

Candela Curves



Frame: P6RD15NZ10U
Light engine: P6RD835
Trim: P6RDCL

Angle	Mean CP	Lumens
0	773	
5	772	74
10	779	
15	775	219
20	758	
25	723	332
30	675	
35	615	383
40	544	
45	458	347
50	329	
55	140	135
60	20	
65	3	5
70	1	
75	1	1
80	0	
85	0	0
90	0	

Single unit data

Height to Lighted Plane	Initial Center Beam Foot-Candles	Beam Dia. (ft)*
5'	31	6.5'
6'	21	7.8'
7'	16	9.1'
8'	12	10.4'
9'	10	11.7'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial Center Beam Foot-Candles	Watts per Sq. Ft.
5'	65.5	0.77
6'	43.0	0.51
7'	30.7	0.36
8'	25.6	0.30
9'	20.5	0.24

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%
Wall	70	50	30	10	50	10	50	10	50	10	0
RCR	Zonal cavity method - Effective floor reflectance = 20%										
Room Cavity Ratio	0	119	119	119	119	116	116	111	111	106	106
	1	112	109	106	103	107	102	103	98	99	95
	2	105	99	94	90	97	89	94	87	91	85
	3	98	90	84	79	88	78	86	77	83	76
	4	91	82	75	69	80	69	78	68	76	67
	5	85	74	67	62	73	61	71	61	70	60
	6	79	68	61	55	67	55	65	55	64	54
	7	74	62	55	50	62	50	60	49	59	49
	8	69	57	50	45	57	45	56	45	54	44
	9	65	53	46	41	52	41	51	41	50	40
	10	61	49	42	37	49	37	48	37	47	37

Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	625	41.8%
0-40	1009	67.4%
0-60	1490	99.6%
0-90	1496	100.0%

1. Wattage: controlled to within 5%

2. Correlated Color Temperature: within specs as defined in ANSI_NEMA_ANSLG C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.

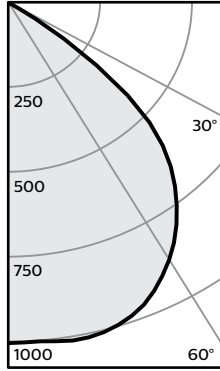
* Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.

P6R LyteProfile 6" Round

Commercial downlight

Downlight: 2,000lm

Candela Curves



Frame: P6RD20NZ101
Light engine: P6RD835
Trim: P6RDCL

Output lumens: 1939lm
Input Watts: 24.8W
Spacing Criterion: 1.3

Angle	Mean CP	Lumens
0	1002	
5	1000	96
10	1010	
15	1004	283
20	981	
25	937	431
30	874	
35	797	497
40	705	
45	594	449
50	423	
55	184	176
60	28	
65	4	7
70	2	
75	1	1
80	0	
85	0	0
90	0	

Report no: F33615

Efficacy: 77.9lm/W
CCT: 3500K
CRI: >80

Single unit data

Height to Lighted Plane	Initial Center Beam Foot-Candles	Beam Dia. (ft)*
5'	40	6.5'
6'	28	7.8'
7'	20	9.1'
8'	16	10.4'
9'	12	11.7'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial Center Beam Foot-Candles	Watts per Sq. Ft.
5'	85.0	1.10
6'	55.8	0.72
7'	39.8	0.52
8'	33.2	0.43
9'	26.6	0.34

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%
Wall	70	50	30	10	50	10	50	10	50	10	0
RCR	Zonal cavity method - Effective floor reflectance = 20%										
Room Cavity Ratio	0	119	119	119	119	116	116	111	111	106	106
	1	112	109	106	103	107	102	103	98	99	95
	2	105	99	94	90	97	89	94	87	91	85
	3	98	90	84	79	88	78	86	77	83	76
	4	91	82	75	69	80	69	78	68	76	67
	5	85	74	67	62	73	61	71	61	70	60
	6	79	68	61	55	67	55	65	55	64	54
	7	74	62	55	50	62	50	60	49	59	49
	8	69	57	50	45	57	45	56	45	54	44
	9	65	53	46	41	52	41	51	41	50	40
	10	61	49	42	37	49	37	48	37	47	37

Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	810	41.7%
0-40	1306	67.4%
0-60	1931	99.6%
0-90	1939	100.0%

1. Wattage: controlled to within 5%
2. Correlated Color Temperature: within specs as defined in ANSI_NEMA_ANSLG C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.
3. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.

Downlight CRI and CCT adjustment factors

80CRI 4000K = 102%
80CRI 3500K = 100%
80CRI 3000K = 97%
80CRI 2700K = 89%

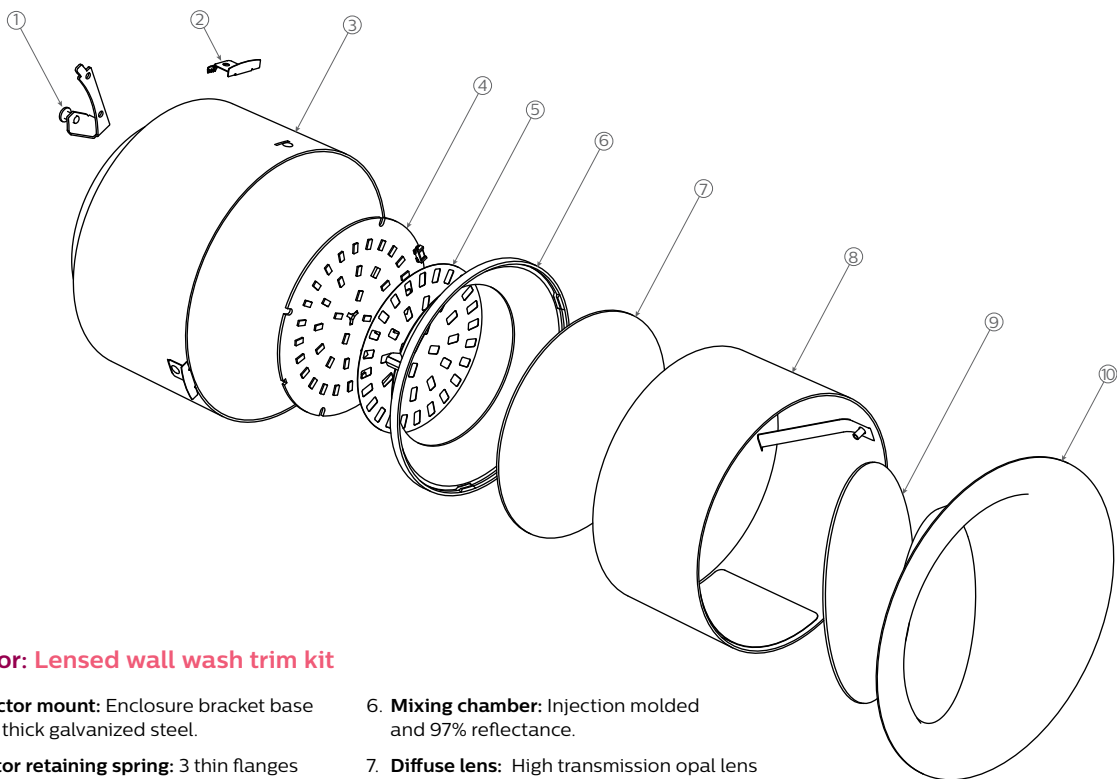
Downlight finish adjustment factors

Reflector

Clear = 1.00
Comfort Clear = 0.97
White = 0.88
Clear defuse = 0.79

P6R LyteProfile 6" Round

Commercial lensed wall wash



Reflector: Lensed wall wash trim kit

1. **Connector mount:** Enclosure bracket base (0.04") thick galvanized steel.
2. **Reflector retaining spring:** 3 thin flanges only (0.012") thick stainless steel, make a clean, flush trim appearance.
3. **Housing:** Formed (0.05") thick aluminum provides integrated thermal management allowing for a low profile at less than 4½" tall.
4. **LED Board:** High efficient Philips mid-flux LEDs.
5. **High reflective disc:** 98% reflectance material to increase light output.
6. **Mixing chamber:** Injection molded and 97% reflectance.
7. **Diffuse lens:** High transmission opal lens provides an even source of illumination.
8. **Kick reflector sleeve:** Aluminum. Lined with a highly reflective material to increase light output.
9. **Wall wash diffuse lens:** High transmission opal lens.
10. **Reflector:** (0.040") Aluminum. Provides clean and uniform wall-washing spill.

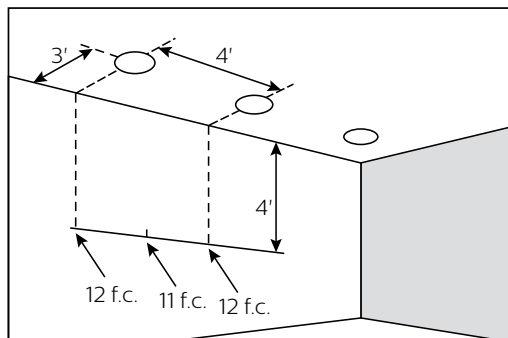
Lensed wall wash

Lighting Data (example)

P6RD10NZ10U/P6RD835/P6RLWCL illumination on the wall 4' down from the ceiling is 12 f.c. beneath and 11 f.c. between fixtures.

CRI and CCT adjustment factors

80CRI 4000K = 102%
80CRI 3500K = 100%
80CRI 3000K = 97%
80CRI 2700K = 89%

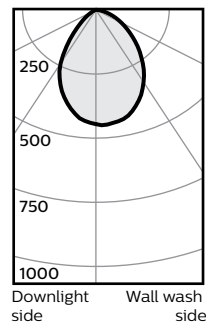


P6R LyteProfile 6" Round

Commercial lensed wall wash

Lensed wall wash: 1,000lm

Candela Curve



Frame: P6RD10NZ10U
Light engine: P6RD835
Trim: P6RLWCL

Output lumens:	685 lms
Input Watts ¹ :	10.7 W
Efficacy:	64.0 lm/w
CCT ² :	3500 K
CRI ³ :	>80

Report no³: F33668

Multiple unit data

Foot-candles on wall	2' from wall 3' on center		
1	18	13	18
2	24	21	24
3	20	20	20
4	15	15	15
5	12	12	12
6	9	9	9
7	7	7	7
8	6	6	6
9	5	5	5
10	4	4	4
12	4	3	4
14	3	3	3

Multiple unit data

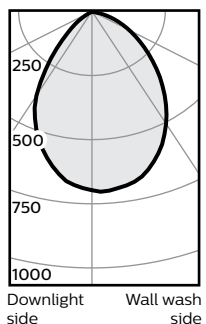
Foot-candles on wall	3' from wall 3' on center		
1	7	8	7
2	13	14	13
3	15	16	15
4	14	15	14
5	12	13	12
6	11	11	11
7	9	9	9
8	8	8	8
9	6	6	6
10	6	6	6
12	5	5	5
14	4	4	4

Multiple unit data (shown above)

Foot-candles on wall	3' from wall 4' on center		
1	16	8	16
2	21	13	21
3	16	14	16
4	12	11	12
5	9	9	9
6	7	7	7
7	6	6	6
8	5	5	5
9	4	4	4
10	3	3	3
12	3	3	3
14	2	2	2

Lensed wall wash: 1,500lm

Candela Curve



Frame: P6RD15NZ10U
Light engine: P6RD835
Trim: P6RLWCL

Output lumens:	1069 lms
Input Watts ¹ :	17.4 W
Efficacy:	61.4 lm/w
CCT ² :	3500 K
CRI ³ :	>80

Report no³: F33669

Multiple unit data

Foot-candles on wall	2' from wall 3' on center		
1	28	21	28
2	37	33	37
3	31	31	31
4	24	24	24
5	18	18	18
6	14	14	14
7	11	11	11
8	9	9	9
9	8	8	8
10	7	7	7
12	5	5	5
14	5	5	5

Multiple unit data

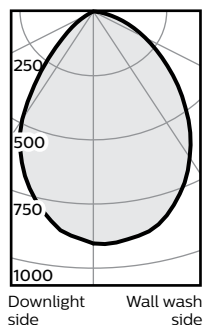
Foot-candles on wall	3' from wall 3' on center		
1	11	12	11
2	21	21	21
3	24	24	24
4	22	23	22
5	19	20	19
6	16	17	16
7	14	14	14
8	12	12	12
9	10	10	10
10	9	9	9
12	7	7	7
14	6	6	6

Multiple unit data (shown above)

Foot-candles on wall	3' from wall 4' on center		
1	25	12	25
2	32	21	32
3	25	21	25
4	19	18	19
5	14	14	14
6	11	11	11
7	9	9	9
8	7	7	7
9	6	6	6
10	5	5	5
12	4	4	4
14	4	4	4

Lensed wall wash: 2,000lm

Candela Curve



Frame: P6RD20NZ101
Light engine: P6RD835
Trim: P6RLWCL

Output lumens:	1372 lms
Input Watts ¹ :	23.3 W
Efficacy:	58.9 lm/w
CCT ² :	3500 K
CRI ³ :	>80

Report no³: F33670

Multiple unit data

Foot-candles on wall	2' from wall 3' on center		
1	34	13	34
2	44	27	44
3	37	31	37
4	29	26	29
5	22	21	22
6	17	17	17
7	14	14	14
8	11	11	11
9	10	10	10
10	9	8	9
12	7	7	7
14	6	6	6

Multiple unit data

Foot-candles on wall	3' from wall 3' on center		
1	12	7	12
2	22	15	22
3	26	20	26
4	25	22	25
5	22	21	22
6	19	18	19
7	16	16	16
8	14	14	14
9	12	12	12
10	11	10	11
12	9	9	9
14	7	7	7

Multiple unit data (shown above)

Foot-candles on wall	3' from wall 4' on center		
1	32	7	32
2	40	17	40
3	31	21	31
4	23	19	23
5	17	16	17
6	13	13	13
7	11	11	11
8	9	9	9
9	8	8	8
10	7	7	7
12	6	6	6
14	5	5	5

1. Wattage: controlled to within 5%
2. Correlated Color Temperature: within specs as defined in ANSI_NEMA_ANSI C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.
3. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.

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