

PHILIPS LIGHTOLIER

Downlighting

LyteProfile

4" 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 energy efficient with up to 95lm/W, provide a full 60° cutoff, and feature an impressively, shallow 4.5" depth.

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

Ordering guide: Frame-in kit¹

Example: P4RD15NZ10UVBEM

Series	Style	Lumens	Installation	Dimming	Input voltage	Version	Options
P4R	D		N			VB	
P4R LyteProfile 4" Round	D Downlight	10 1,000 lm 15 1,500 lm	N Non-IC New construction	Z10 0-10V Dimming L Lutron	U Universal (120/277v) 3 347V ²	VB Version B	EM Emergency ² LC Chicago plenum
		20 2,000 lm	N Non-IC New construction	Z10 0-10V Dimming L Lutron	1 120V 2 277V 3 347V ²		

Ordering guide: Light engine

Example: P4RD835VB

Series	Style	CRI	CCT	Version	Options
P4R	D	8		VB	
P4R LyteProfile 4" Round	D Downlight	8 80 CRI	27 2700K 30 3000K 35 3500K 40 4000K	VB Version B	LC Chicago plenum

For 90 CRI, contact factory.

Ordering guide: Reflector

Example: P4RDCCP

Series	Style	Reflector	Flange
P4R			
P4R LyteProfile 4" Round	D Downlight LW Lensed wall wash	CL Clear CC Comfort clear D Clear diffuse (applied)	Blank White (painted) P Polished (matches aperture)
		W White (painted)	Blank White (painted)

1. Mounting Bars need to be ordered separately, see Options and Accessories on page 2 for Mounting Bar options.

2. 347V configurations are not available with the emergency option.

Note: Refer to page 2 for Energy Star certification details.

Note: Chicago Plenum (LC) is not available with 347V.

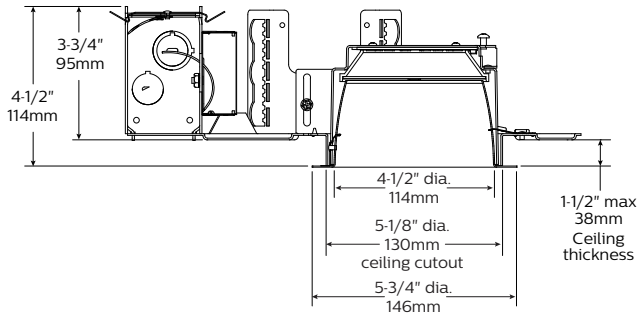


P4R LyteProfile 4" Round

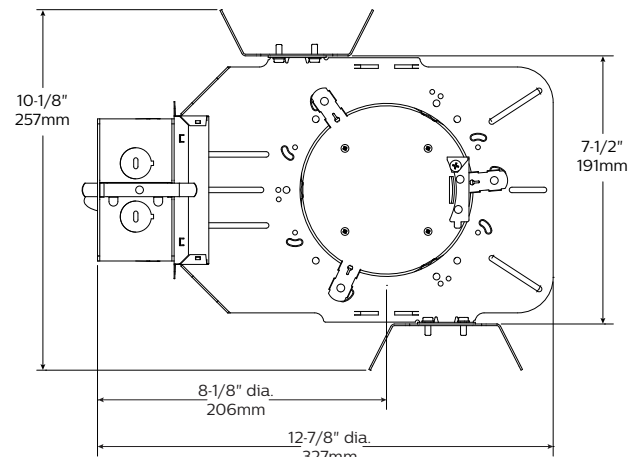
Commercial downlight and lensed wall wash

Frame-in kit

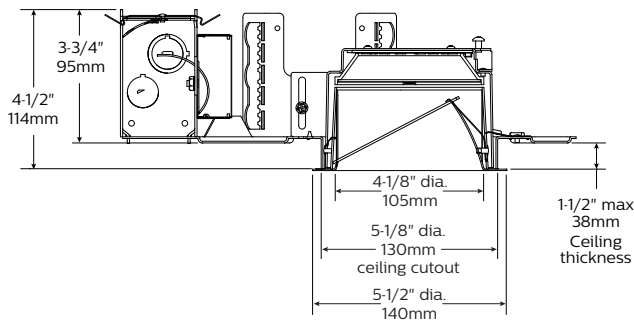
Downlight side view



Top view



Lensed wall wash side view



Features

Ceiling cutout: 5 1/8" (130mm).

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°C. 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.

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.

Options and accessories

Dimming capability: 0-10V and Lutron 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 with the following exceptions:

- P4RD10NLUVB, P4RD15NLUVB: Lutron 1000lm and 1500lm frames are energy star certified for 120V applications only.
- 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: 50,000 hours at L70. Backed by a 5-year limited warranty. (see Philips.com/warranties for details)

Labels

cULus. Suitable for wet location.

P4R LyteProfile 4" Round

Commercial downlight and lensed wall wash

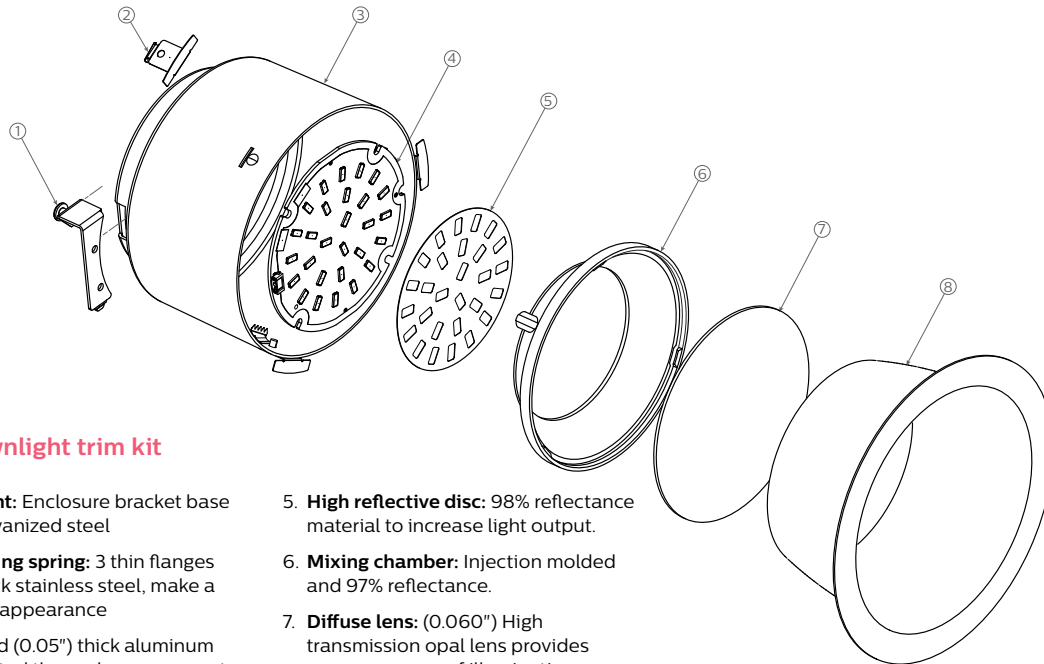
Electrical matrix

Frame-In Kit Specifications	Input volts	Input freq.	Input Current	LED drive current*	Input power*	LED power	THD factor	Power factor
P4RD10NZ10UVB 1000lm w/0-10v dimming	120V	50/60Hz	0.095	0.229	11.3	8.9	<20%	>0.9
	277V	50/60Hz	0.044	0.22	11.3	8.5	<20%	>0.9
P4RD15NZ10UVB 1500lm w/0-10v dimming	120V	50/60Hz	0.141	0.334	16.8	13	<20%	>0.9
	277V	50/60Hz	0.065	0.335	16.8	13	<20%	>0.9
P4RD20NZ101VB 2000lm w/0-10v dimming	120V	50/60Hz	0.211	0.478	25.2	19	<20%	>0.9
P4RD20NZ102VB 2000lm w/0-10v dimming	277V	50/60Hz	0.095	0.479	25.4	19	<20%	>0.9
P4RD10NZ103VB 1000lm w/0-10v dimming	347V	50/60Hz	0.071	0.239	13.3	9.39	<20%	>0.5
P4RD15NZ103VB 1500lm w/0-10v dimming	347V	50/60Hz	0.093	0.357	18.5	14.3	<20%	>0.6
P4RD20NZ103VB 2000lm w/0-10v dimming	347V	50/60Hz	0.127	0.493	28.63	20.41	<20%	>0.6
P4RD10NLUVB 1000lm w/LUTRON	120V	50/60Hz	0.115	0.24	13	9.4	<20%	>0.9
	277V	50/60Hz	0.048	0.216	11	8.3	<20%	>0.8
P4RD15NLUVB 1500lm w/LUTRON	120V	50/60Hz	0.138	0.361	16.4	14	<20%	>0.9
	277V	50/60Hz	0.069	0.331	16.2	12.9	<20%	>0.8
P4RD20NL1VB 2000lm w/LUTRON	120V	50/60Hz	0.203	0.464	24.2	18.4	<20%	>0.9
P4RD20NL2VB 2000lm w/LUTRON	277V	50/60Hz	0.096	0.462	24.7	18.4	<20%	>0.9
P4RD10NL3VB 1000lm w/LUTRON	347V	50/60Hz	0.062	0.233	14.17	9.16	<20%	>0.6
P4RD15NL3VB 1500lm w/LUTRON	347V	50/60Hz	0.079	0.355	20.26	14.35	<20%	>0.7
P4RD20NL3VB 2000lm w/LUTRON	347V	50/60Hz	0.092	0.418	25.3	17.11	<20%	>0.7

* +/- 10%

P4R LyteProfile 4" Round

Commercial downlight



Reflector: Downlight trim kit

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

Downlight CRI and CCT adjustment factors

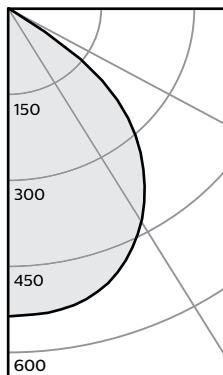
80CRI 2700K: = 89%
80CRI 3000K: = 97%
80CRI 3500K: = 100%
80CRI 4000K: = 102%

Downlight finish adjustment factors

Reflector
Clear = 100%
Comfort Clear = 97%
White = 88%
Clear diffuse = 79%

Downlight: 1,000lm

Candela Curves



Angle	Mean CP	Lumens
0	536	
5	534	51
10	532	
15	524	148
20	509	
25	484	222
30	452	
35	413	258
40	366	
45	314	240
50	248	
55	153	124
60	13	
65	3	8
70	2	
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'	21	6.5'
6'	15	7.8'
7'	11	9.1'
8'	8	10.4'
9'	7	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'	46.0	0.49
6'	30.0	0.32
7'	21.0	0.23
8'	18.0	0.19
9'	14.0	0.15

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%	
	70	50	30	10	50	10	50	10	50	10	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	100
	1	112	109	106	103	106	101	102	98	98	95	90
	2	104	98	93	89	97	88	93	86	90	84	80
	3	97	89	83	78	87	77	85	76	82	74	71
	4	90	81	73	68	79	68	77	67	75	66	63
	5	84	73	66	60	72	60	70	59	68	59	56
	6	78	67	59	54	66	53	64	53	63	53	50
	7	73	61	54	48	60	48	59	48	58	47	45
	8	68	56	49	43	55	43	54	43	53	43	41
	9	64	52	44	39	51	39	50	39	49	39	37
	10	60	48	41	36	47	36	47	36	46	36	34

Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	421	40.1%
0-40	678	64.5%
0-60	1042	99.1%
0-90	1051	100.0%

Frame: P4RD10NZ10UVB
Light engine: P4RD835VB
Trim: P4RDCL

Report no³: F34244

Output lumens: 1051lm
Light engine (source) lumens: 1214lm
Input Watts¹: 11.1W
Spacing Criterion: 1.3

Efficacy: 94.7lm/W
CCT²: 3500K
CRI: >80

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

1. Wattage: controlled to within 10%
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.
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P4R LyteProfile 4" Round

Commercial downlight

Downlight: 1,500lm

Candela Curves	Angle	Mean CP	Lumens
	0	778	
	5	774	74
	10	775	
	15	761	215
	20	737	
	25	703	323
	30	657	
	35	601	375
	40	534	
	45	457	349
	50	359	
	55	208	184
	60	53	
	65	5	13
	70	3	
	75	2	2
	80	1	
	85	1	1
	90	0	

Output lumens:	1535lm	Efficacy:	91.9lm/W
Light engine		CCT ² :	3500K
(source) lumens:	1757lm	CRI:	>80
Input Watts ¹ :	16.7W		
Spacing Criterion:	1.3		

Frame: P4RD15NZ10UVB
 Light engine: P4RD835VB
 Trim: P4RDCL

Report no³: F34245

Single unit data		
Height to Lighted Plane	Initial Center Beam Foot-Candles	Beam Dia. (ft)*
5'	31	6.5'
6'	22	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'	67.0	0.74
6'	44.0	0.49
7'	31.0	0.35
8'	26.0	0.29
9'	21.0	0.23

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

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%
	70	50	30	10	50	10	50	10	50	10	0
Wall											
RCR	Zonal cavity method - Effective floor reflectance = 20%										
Room Cavity Ratio	0	119	119	119	116	116	111	111	106	106	100
	1	112	109	106	103	106	101	102	98	98	95
	2	104	98	93	89	97	88	93	86	90	84
	3	97	89	83	78	87	77	85	76	82	74
	4	90	81	73	68	79	68	77	67	75	66
	5	84	73	66	60	72	60	70	59	68	59
	6	78	67	59	54	66	53	64	53	63	53
	7	73	61	54	48	60	48	59	48	58	47
	8	68	56	49	43	55	43	54	43	53	43
	9	64	52	44	39	51	39	50	39	49	39
	10	60	48	41	36	47	36	47	36	46	36

Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	612	39.9%
0-40	986	64.2%
0-60	1519	99.0%
0-90	1535	100.0%

Downlight: 2,000lm

Candela Curves	Angle	Mean CP	Lumens
	0	1041	
	5	1035	99
	10	1036	
	15	1017	287
	20	986	
	25	940	432
	30	879	
	35	847	502
	40	716	
	45	613	468
	50	482	
	55	279	246
	60	69	
	65	7	16
	70	4	
	75	2	3
	80	2	
	85	1	1
	90	0	

Output lumens:	2054lm	Efficacy:	83.8lm/W
Light engine		CCT ² :	3500K
(source) lumens:	2384lm	CRI:	>80
Input Watts ¹ :	24.5W		
Spacing Criterion:	1.3		

Frame: P4RD20NZ101VB
 Light engine: P4RD835VB
 Trim: P4RDCL

Report no³: F34246

Single unit data		
Height to Lighted Plane	Initial Center Beam Foot-Candles	Beam Dia. (ft)*
5'	42	6.5'
6'	29	7.8'
7'	21	9.1'
8'	16	10.4'
9'	13	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'	89.0	1.09
6'	59.0	0.71
7'	42.0	0.51
8'	35.0	0.42
9'	28.0	0.34

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

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%
	70	50	30	10	50	10	50	10	50	10	0
Wall											
RCR	Zonal cavity method - Effective floor reflectance = 20%										
Room Cavity Ratio	0	119	119	119	116	116	111	111	106	106	100
	1	112	109	106	103	106	101	102	98	98	95
	2	104	98	93	89	97	88	93	86	90	84
	3	97	89	83	78	87	77	85	76	82	74
	4	90	81	73	68	79	68	77	67	75	66
	5	84	73	66	60	72	60	70	59	68	59
	6	78	67	59	54	66	53	64	53	63	53
	7	73	61	54	48	60	48	59	48	58	47
	8	68	56	49	43	55	43	54	43	53	43
	9	64	52	44	39	51	39	50	39	49	39
	10	60	48	41	36	47	36	47	36	46	36

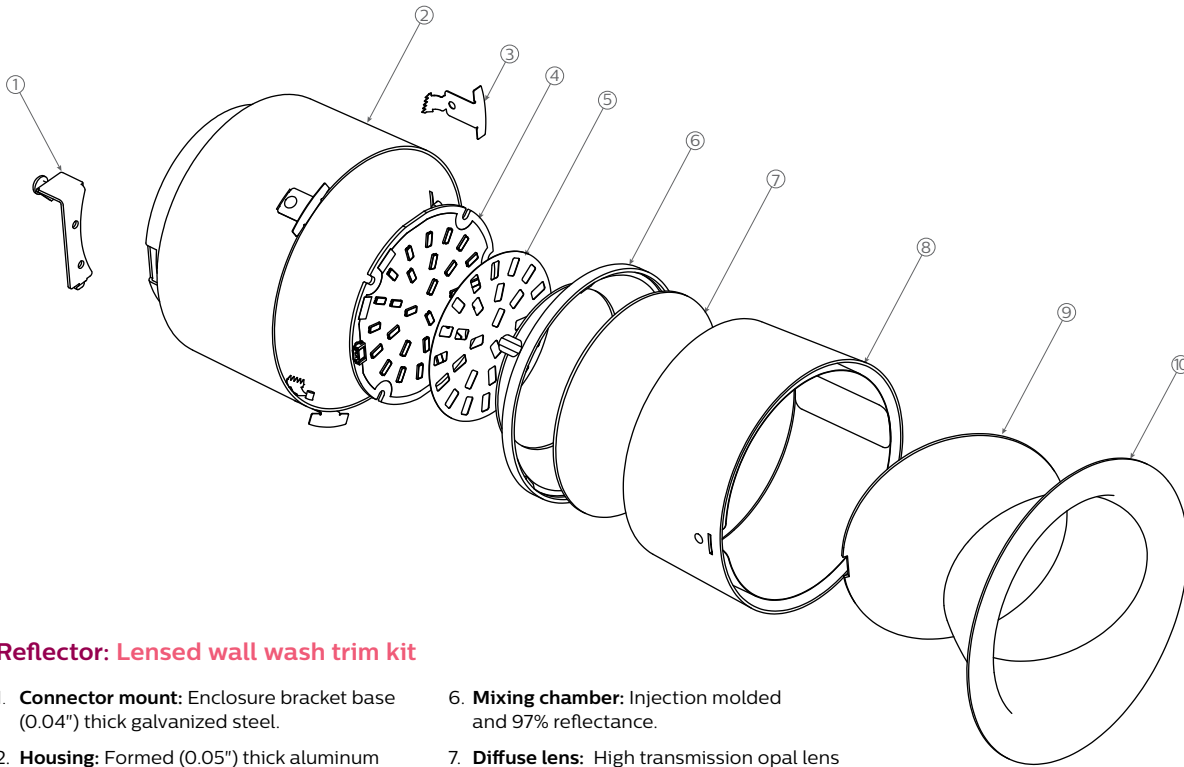
Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	819	39.9%
0-40	1320	64.3%
0-60	2034	99.0%
0-90	2054	100.0%

1. Wattage: controlled to within 10%
 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.

P4R LyteProfile 4" Round

Commercial lensed wall wash



Reflector: Lensed wall wash trim kit

1. **Connector mount:** Enclosure bracket base (0.04") thick galvanized steel.
2. **Housing:** Formed (0.05") thick aluminum provides integrated thermal management
3. **Reflector retaining spring:** 3 thin flanges only (0.012") thick stainless steel, make a clean, flush trim appearance. .
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.

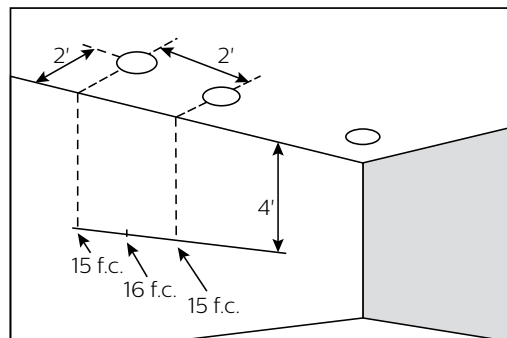
Lensed wall wash

Lighting Data - Example

P4RD10NZ10UVB/P4RD835VB/P4RLWCL
illumination on the wall 4' down from the ceiling is 15 f.c. beneath and 16 f.c. between fixtures.

CRI and CCT adjustment factors

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

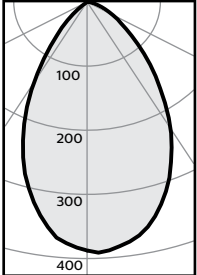


P4R LyteProfile 4" Round

Commercial lensed wall wash

Lensed wall wash: 1,000lm

Candela Curve



Downlight side | Wall wash side

Frame: P4RD10NZ10UVB
Light engine: P4RD835VB
Trim: P4RLWCL

Output lumens:	509 lms
Light engine (source) lumens:	1214 lms
Input Watts ¹ :	11.1W
Efficacy:	45.9 lm/w
CCT ² :	3500K
CRI ³ :	>80

Report no³: F34250

Multiple unit data

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

Multiple unit data

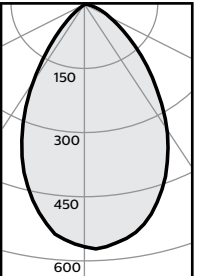
Foot-candles on wall	3' from wall		
	3' on center		
1	3	3	3
2	6	6	6
3	9	9	9
4	9	9	9
5	8	8	8
6	7	6	7
7	5	5	5
8	4	4	4
9	4	3	4
10	3	3	3
12	2	3	2
14	2	2	2

Multiple unit data (shown above)

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

Lensed wall wash: 1,500lm

Candela Curve



Downlight side | Wall wash side

Frame: P4RD15NZ10UVB
Light engine: P4RD835VB
Trim: P4RLWCL

Output lumens:	748 lms
Light engine (source) lumens:	1757 lms
Input Watts ¹ :	16.6W
Efficacy:	45.1 lm/w
CCT ² :	3500K
CRI ³ :	>80

Report no³: F34251

Multiple unit data

Foot-candles on wall	2' from wall		
	2' on center		
1	15	15	15
2	29	30	29
3	29	30	29
4	22	23	22
5	16	17	16
6	12	13	12
7	9	9	9
8	6	7	6
9	5	6	5
10	4	4	4
12	3	3	3
14	3	3	3

Multiple unit data

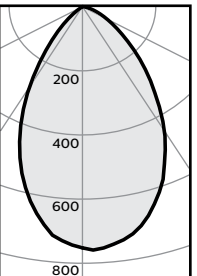
Foot-candles on wall	3' from wall		
	3' on center		
1	4	4	4
2	9	9	9
3	13	14	13
4	13	14	13
5	12	12	12
6	10	10	10
7	8	9	8
8	7	7	7
9	5	6	5
10	4	5	4
12	4	4	4
14	3	3	3

Multiple unit data (shown above)

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

Lensed wall wash: 2,000lm

Candela Curve



Downlight side | Wall wash side

Frame: P4RD20NZ101VB
Light engine: P4RD835VB
Trim: P4RLWCL

Output lumens:	1004 lms
Light engine (source) lumens:	2384 lms
Input Watts ¹ :	24.5W
Efficacy:	41.0 lm/w
CCT ² :	3500K
CRI ³ :	>80

Report no³: F34252

Multiple unit data

Foot-candles on wall	2' from wall		
	2' on center		
1	21	21	21
2	40	41	40
3	38	40	38
4	30	31	30
5	22	23	22
6	16	17	16
7	12	12	12
8	9	9	9
9	7	7	7
10	5	6	5
12	4	4	4
14	3	4	3

Multiple unit data

Foot-candles on wall	3' from wall		
	3' on center		
1	5	5	5
2	13	13	13
3	17	18	17
4	18	19	18
5	15	17	15
6	12	14	12
7	10	11	10
8	8	9	8
9	6	7	6
10	5	6	5
12	4	5	4
14	3	4	3

Multiple unit data (shown above)

Foot-candles on wall	3' from wall		
	4' on center		
1	4	3	4
2	11	9	11
3	14	13	14
4	14	14	14
5	13	13	13
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

1. Wattage: controlled to within 10%
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.

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