

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)

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 New construction Non-IC	Z10 0-10V L Lutron	U Universal (120/277v) 3 347V ²	VB Version B	EM Emergency ² LC Chicago Plenum
		20 2,000 lm	N New construction Non-IC	Z10 0-10V L Lutron	1 120V 2 277V 3 347V ²		

Light engine

Example: P4RD835VB

Series	Style	CRI	CCT	Version	Version
P4R	D			VB	
P4R LyteProfile 4" Round	D Downlight	8 80 CRI	27 2700K 30 3000K 35 3500K 40 4000K	VB Version B	— None LC Chicago Plenum
		9 90 CRI	27 2700K 30 3000K		

Reflector

Example: P4RDCCP

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

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

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

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

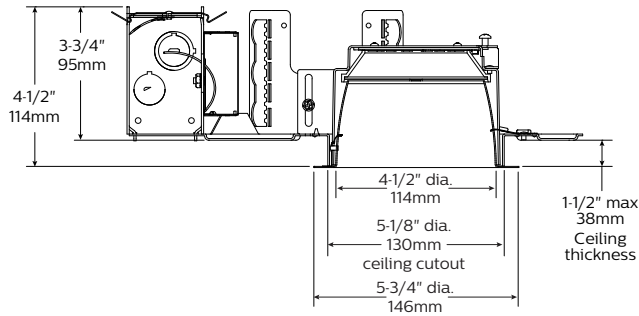


P4R LyteProfile 4" Round

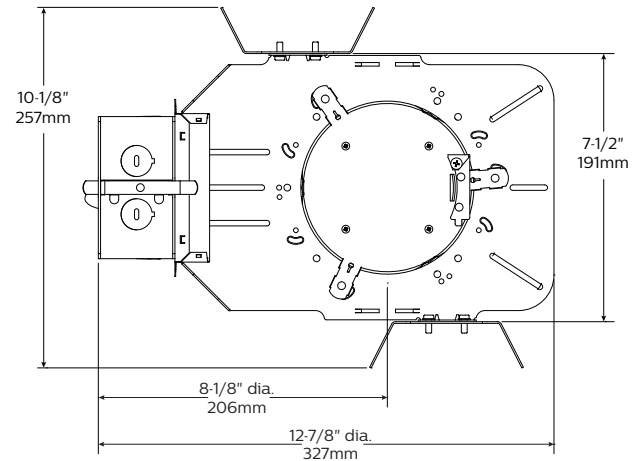
Commercial downlight and lensed wall wash

Frame-in kit

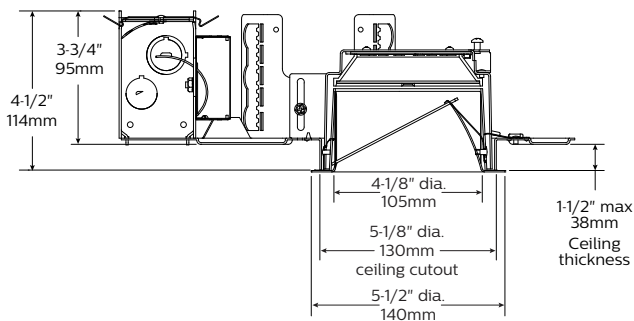
Downlight side view



Top view



Lensed wall wash side view



Features

Ceiling cutout: 5 5/8" (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
------	--

ENERGY STAR®

All New Construction Non-IC (N) frame-in kit and trims are Energy Star certified with the following exceptions:

- Emergency configurations.
- 347V configurations.
- LC (Chicago plenum) configurations.
- Lensed Wall Washers.
- 90CRI 2700K 2000lm.

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

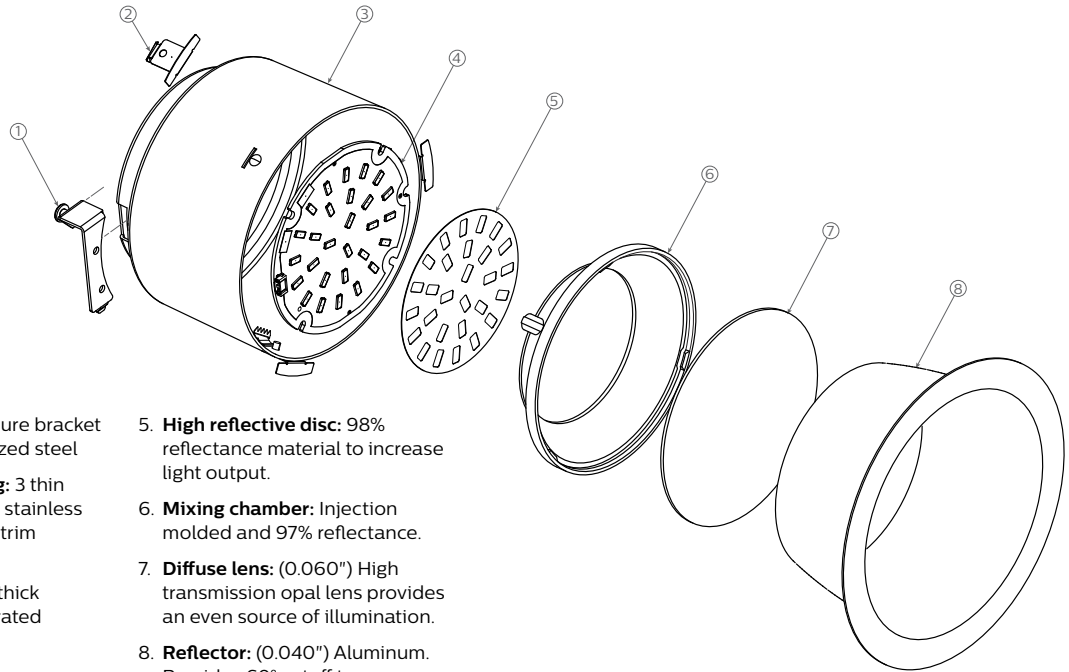
Electrical matrix

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%

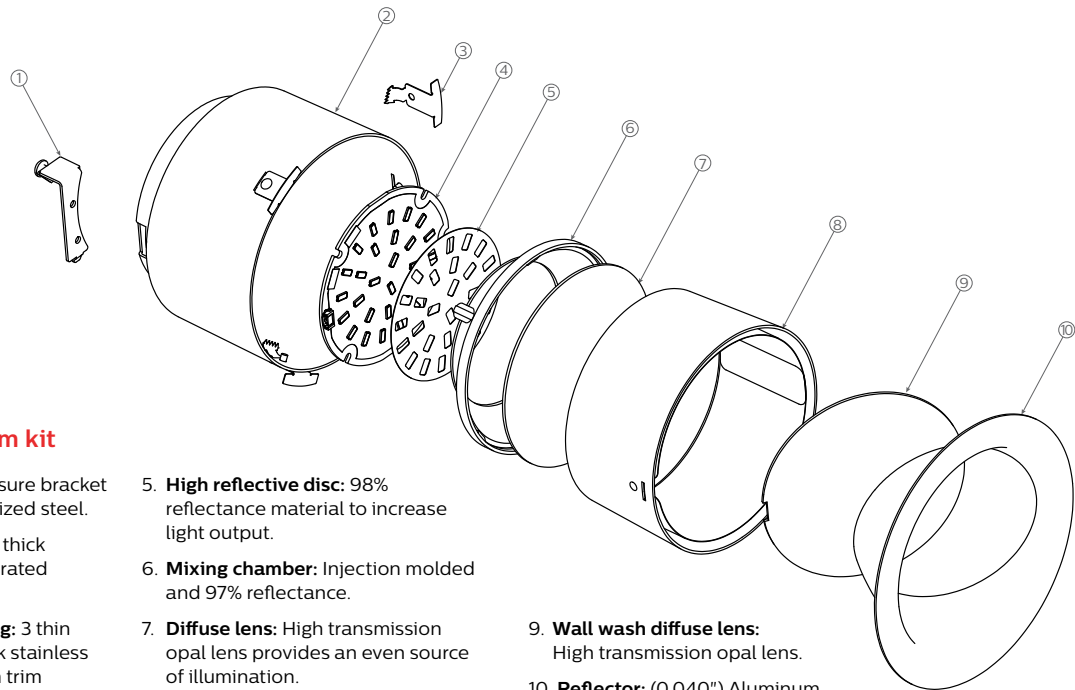
P4R LyteProfile 4" Round

Commercial downlight and lensed wall wash



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
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.



Lensed wall wash trim kit

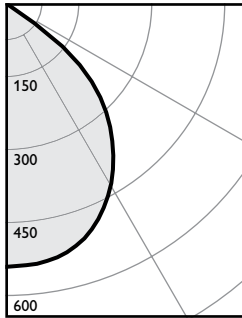
1. **Connector mount:** Enclosure bracket base (0.04") thick galvanized steel.
2. **Housing:** Formed (0.05") thick aluminum provides integrated thermal management
3. **Reflector retaining spring:** 3 thin flanges only (0.012") thick stainless steel, make a clean, flush trim appearance. .
4. **LED Board:**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

P4R LyteProfile 4" Round

Commercial downlight

Downlight, 1000lm Engine, 94.7 lm/w

Candela Curve



Frame: **P4RD10NZ10UVB**
 Engine: **P4RD835VB**
 Trim: **P4RDCL**

Light Engine
 Source lumens: 1214 lms
 Output lumens: 1051 lms
 Input watts: 11.1 W
 CRI: 80 min
 CCT¹: 3500K
 Spacing Crit.: 1.3

Zonal summary

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

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 diameter (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

38' x 38' x 10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Efficacy: 94.7 lm/w
 Report#: F34244

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	1	2	3	4	5	6	7	8	9	10
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

CRI and CCT adjustment factors

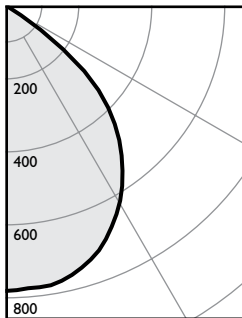
90CRI 2700K = 74%
 90CRI 3000K = 78%
 80CRI 2700K = 89%
 80CRI 3000K = 97%
 80CRI 3500K = 100%
 80CRI 4000K = 102%

Reflector finish adjustment factors

CL = 100%
 CC = 97%
 D = 88%
 W = 79%

Downlight, 1500lm Engine, 91.9 lm/w

Candela Curve



Frame: **P4RD15NZ10UVB**
 Engine: **P4RD835VB**
 Trim: **P4RDCL**

Light Engine
 Source lumens: 1757 lms
 Output lumens: 1535 lms
 Input watts: 16.7 W
 CRI: 80 min
 CCT¹: 3500K
 Spacing Crit.: 1.3

Zonal summary

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

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	

Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (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' x 38' x 10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Efficacy: 91.9 lm/w
 Report#: F34245

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	1	2	3	4	5	6	7	8	9	10
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

CRI and CCT adjustment factors

90CRI 2700K = 74%
 90CRI 3000K = 78%
 80CRI 2700K = 89%
 80CRI 3000K = 97%
 80CRI 3500K = 100%
 80CRI 4000K = 102%

Reflector finish adjustment factors

CL = 100%
 CC = 97%
 D = 88%
 W = 79%

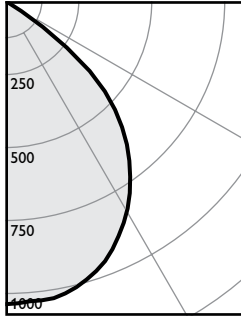
1. Correlated Color Temperature within specs as defined in ANSI_NEMA_ANSLG C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.
 2. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State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

P4R LyteProfile 4" Round

Commercial downlight

Downlight, 2000lm Engine, 83.8 lm/w

Candela Curve



Frame: **P4RD20NZ101VB**
 Engine: **P4RD835VB**
 Trim: **P4RDCL**

Light Engine
 Source lumens: 2384 lms
 Output lumens: 2054 lms
 Input watts: 24.5 W
 CRI: 80 min
 CCT¹: 3500K
 Spacing Crit.: 1.3

Zonal summary

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

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	

Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (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" x 38" x 10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Efficacy: 83.8 lm/w
 Report#: F34246

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	1	2	3	4	5	6	7	8	9	10
119	119	119	119	116	116	111	111	106	106	100	100
112	109	106	103	106	101	102	98	98	95	90	90
104	98	93	89	97	88	93	86	90	84	80	80
97	89	83	78	87	77	85	76	82	74	71	71
90	81	73	68	79	68	77	67	75	66	63	63
84	73	66	60	72	60	70	59	68	59	56	56
78	67	59	54	66	53	64	53	63	53	50	50
73	61	54	48	60	48	59	48	58	47	45	45
68	56	49	43	55	43	54	43	53	43	41	41
64	52	44	39	51	39	50	39	49	39	37	37
60	48	41	36	47	36	47	36	46	36	34	34

CRI and CCT adjustment factors

90CRI 2700K = 74%
 90CRI 3000K = 78%
 80CRI 2700K = 89%
 80CRI 3000K = 97%
 80CRI 3500K = 100%
 80CRI 4000K = 102%

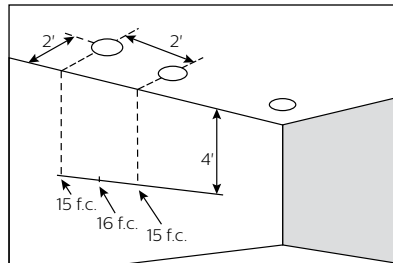
Reflector finish adjustment factors

CL = 100%
 CC = 97%
 D = 88%
 W = 79%

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

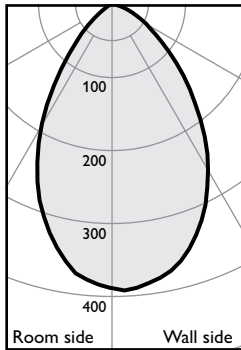
90CRI 2700K = 74%
 90CRI 3000K = 78%
 80CRI 2700K = 89%
 80CRI 3000K = 97%
 80CRI 3500K = 100%
 80CRI 4000K = 102%

Reflector finish adjustment factors

CL = 100%
 CC = 97%
 D = 88%
 W = 79%

Lensed wall wash, 1000lm Engine, 45.9 lm/w

Candela Curve



Frame: **P4RD10NZ10UVB**
 Engine: **P4RD835VB**
 Trim: **P4RLWCL**

Light Engine
 Source lumens: 1214 lms
 Output lumens: 509 lms
 Input watts: 11.1 W
 CRI: 80 min
 CCT¹: 3500K

Efficacy: 45.9 lm/w
 Report#: F34250

Multiple unit data

Footcandles on wall

Distance from ceiling in feet	2' from wall		
	3' on ctr.	3' on ctr.	3' on ctr.
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

Footcandles on wall

Distance from ceiling in feet	3' from wall		
	3' on ctr.	3' on ctr.	3' on ctr.
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

Footcandles on wall

Distance from ceiling in feet	3' from wall		
	4' on ctr.	4' on ctr.	4' on ctr.
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	4	4
8	4	4	4
9	3	3	3
10	3	3	3
12	2	2	2
14	2	2	2

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

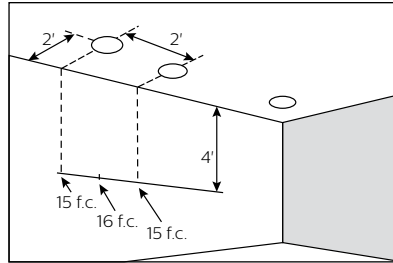
P4R LyteProfile 4" Round

Commercial lensed wall wash

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

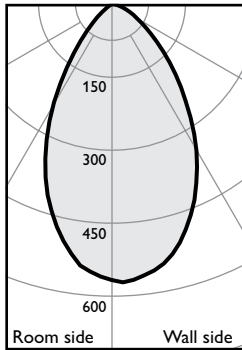
90CRI 2700K = 74%
90CRI 3000K = 78%
80CRI 2700K = 89%
80CRI 3000K = 97%
80CRI 3500K = 100%
80CRI 4000K = 102%

Reflector finish adjustment factors

CL = 100%
CC = 97%
D = 88%
W = 79%

Lensed wall wash, 1500lm Engine, 45.1 lm/w

Candela Curve



Frame: **P4RD15NZ10UVB**
Engine: **P4RD835VB**
Trim: **P4RLWCL**

Light Engine
Source lumens: 1757 lms
Output lumens: 748 lms
Input watts: 16.6 W
CRI: 80 min
CCT¹: 3500K

Efficacy: 45.1 lm/w
Report#: F34251

Multiple unit data

Footcandles on wall

Distance from ceiling in feet	2' from wall		
	3' on ctr.		
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

Footcandles on wall

Distance from ceiling in feet	3' from wall		
	3' on ctr.		
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

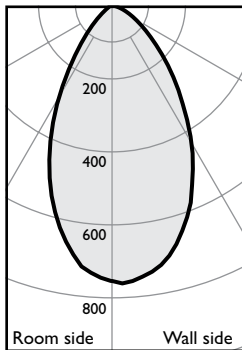
Multiple unit data

Footcandles on wall

Distance from ceiling in feet	3' from wall		
	4' on ctr.		
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, 2000lm Engine, 41.0 lm/w

Candela Curve



Frame: **P4RD20NZ10UVB**
Engine: **P4RD835VB**
Trim: **P4RLWCL**

Light Engine
Source lumens: 2384 lms
Output lumens: 1004 lms
Input watts: 24.5 W
CRI: 80 min
CCT¹: 3500K

Efficacy: 41.0 lm/w
Report#: F34252

Multiple unit data

Footcandles on wall

Distance from ceiling in feet	2' from wall		
	3' on ctr.		
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

Footcandles on wall

Distance from ceiling in feet	3' from wall		
	3' on ctr.		
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

Footcandles on wall

Distance from ceiling in feet	3' from wall		
	4' on ctr.		
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. Correlated Color Temperature within specs as defined in ANSI_NEMA_ANSI C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.
2. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.

