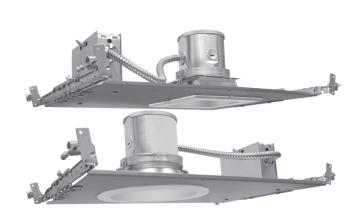
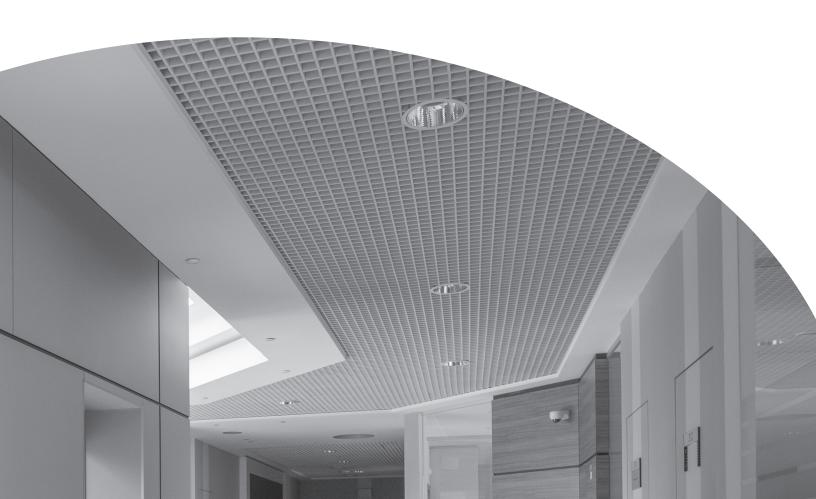
# **PacLights**

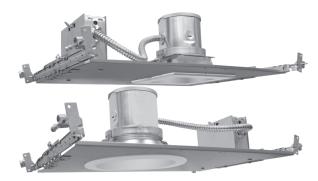


# The FDLS Series

Recessed Downlighting System







# Recessed Downlighting System







### PROJECT:

DATE:

TYPE:

PREPARED BY:



KEY FEATURES
Multiple Reflector and Trim options
Built-in Junction Box
Color & Power Selectable on all models
Direct mount with Clips, or optional New Construction Plate
Emergency Battery Backup options

### **TECHNICAL SPECIFICATIONS**

### **COMPLIANCE**

### UL Listed

UL 1598 Suitable for damp locations Type IC: FDLS-20/15/10 models

Type Non-IC: FDLS-40/34/27 and FDLS-60/45 models

### IESNA LM79 & LM-80 Testing

Paclights LED luminaires have been tested by an independent laboratory in accordance with IESNA LM-79 and LM-80.

### LED CHARACTERISTICS

### LEDS

Long-life, high-ecacy, surface-mount LEDs

### **Correlated Color Temperature**

3000K, 3500K and 4000K selectable with a dip switch

### Lifespan

60,000-hour LED lifespan based on IES LM-80 results and TM-21 calculations

### **Color Rendering Index**

>82

### **Color Uniformity**

PacLights' range of Correlated Color Temperature follows the guidelines of the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2017

### **OTHER**

### 5-Year Limited Warranty\*\*

The PacLights 5-year, limited warranty covers light output, driver performance and paint finish.

\*\*PacLights's warranty is subject to all terms and conditions found at paclights.com/warranty

### CONSTRUCTION

### **Ambient Temperature**

Suitable for up to 50° C (122° F) ambient temperature

### **Cold Weather Starting**

The minimum starting temperature is -4 F°/-20° C

### Housing

Durable cold rolled steel housing provides strength and uniformity. Aluminum heatsink. Reflector and trim is pre-painted to enhanced smooth finish.

### **Mounting Methods**

- Direct mount with tension clips on the reflector and trim piece (standard)
- New construction plate (optional)

### **Green Technology**

Mercury and UV free, and RoHS compliant. Polyester powder coat finish formulated without the use of VOC or toxic heavy metals.

### Diffuser & Reflector

PMMA frosted diffuser, spun aluminum reflector

### **ELECTRICAL**

### Drivers

Input Voltage: 120-277V, 50-60 Hz

Power Factor: > 0.95, THD< 20%. 0-10V continuous dimming, can be dim to off

### **Built-in Junction Bo**

Each light engine includes a built-in junction box, eliminating the need for traditional housing and making it an ideal solution for hardwired lighting in both new construction and remodel projects. FDLS-20/15/10 and FDLS-40/34/27 has three (3) 1/2" KO, FDLS-60/45 has four (4) 1/2" KO for conduit connections.

### Wattage / Input Voltage/ Input Current

Wattage/power selectable with a dip switch

Models	MAX Watt.	Watt. Selectable Levels	120v	208v	240v	277v
FDLS-20/15/10	20w	20w-15w-10w	0.19A	0.11A	0.09A	0.08A
FDLS-40/34/27	40w	40w-34w-27w	0.37A	0.21A	0.19A	0.16A
FDLS-60/45	60w	60w-45w	0.56A	0.32A	0.28A	0.24A



### ORDERING INFORMATION

### FDLS™

FAMILY	LIGHT ENGINE	сст	TRIM	EMERGENCY BACKUP	MOUNTS
FDLS					

Create an ordering number by populating it with the CODE(s) listed in the tables below, following the format shown above.

**EXAMPLE:** FDLS - 40/34/27 - 8CT - 6TRWH **EXAMPLE:** FDLS - 60 - 3000 - 8TRHA - EM1000 **EXAMPLE:** FDLS - 20/15/10 - 4000 - 4TRRG - PJ

The PART#, if shown in the tables below, can be ordered separately from the FDLS.

LIGHT ENGINE \* Must select one. See page 4.

PART# FDLS-20/15/10						
CODE	WATTAGE					
10	10w					
15	15w					
20	20w					
20/15/10	20/15/10w Selectable					

PART# FDLS-40/34/27						
CODE	WATTAGE					
27	27w					
34	34w					
40	40w					
40/34/27	40/34/27w Selectable					

PART# <b>FDLS-60/45</b>					
CODE	WATTAGE				
45	45w				
60	60w				
60/45	60/45w Selectable				

### CCT \* Must select one

CODE	CRI	сст
8CT	> 82	3000K/3500K/4000K Selectable
3000		3000K
3500		3500K
4000		4000K

# **TRIM** \* Must select one. See page 5 - 9.

CODE	PART#	SIZE	LIGHT ENGINE COMPATIBILITY	SHAPE	REFLECTOR	RING	TYPE	INSTALL				
4TRWH	AC-DLS-4TRWH	4"	All Except: FDLS-60/45									
6TRWH	AC-DLS-6TRWH	6"	All Light Engines	David		\A/I-:+-						
8TRWH	AC-DLS-8TRWH	8"	All Light Engines	Round Haze		Round Haze	Rouna	Rouna	d Haze	White		
10TRWH	AC-DLS-10TRWH	10"	All Light Engines									
4TRHA	AC-DLS-4TRHA	4"	All Except: FDLS-60/45									
6TRHA	AC-DLS-6TRHA	6"	All Light Engines	Round Haze		Haze						
8TRHA	AC-DLS-8TRHA	8"	All Light Engines									
4TRRG	AC-DLS-4TRRG	4"	All Except: FDLS-60/45	Dayind	Dooá	Dooá		FIELD				
6TRRG	AC-DLS-6TRRG	6"	All Light Engines	Round	Rosé	Rosé						
4TRWW	AC-DLS-4TRWW	4"	All Except: FDLS-60/45	Round	Haza	\\/bi+a						
6TRWW	AC-DLS-6TRWW	6"	All Except: FDLS-60/45	Wall Wash Haze		White						
4TQWH	AC-DLS-4TQWH	4"	All Except: FDLS-60/45	0		\A/I-:+-	10					
6TQWH	AC-DLS-6TQWH	6"	All Light Engines	Square	Haze	White						
4TQWW	AC-DLS-4TQWW	4"	All Except: FDLS-60/45	Square	Haza	\\/bi+a						
6TQWW	AC-DLS-6TQWW	6"	All Except: FDLS-60/45	Wall Wash	Haze	White						

### **EMERGENCY BATTERY BACKUP**

\* Leave blank, or select one

CODE	PART#	WATT	EMERGENCY LUMEN	INSTALL
EM1000	EMH-8	8w	1,000 Lumen	
EM1900	EMH-15	15w	1,900 Lumen	FIELD
EM2500	EMH-20	20w	2,500 Lumen	FIELD
EM3200	EMH-25	25w	3,200 Lumen	

CA CEC TITLE 20 MODEL# BLD-HMXXD-YYY EMERGENCY RUNTIME >90 mins The emergency lumen output is limited by the lumen capacity of the light engine.

### **MOUNTS**

\* Leave blank for direct mount w/ tension clips, or select one. See page 10.

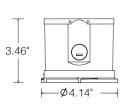
CODE	PART#	TYPE	COMPATIBILITY	INSTALL
DT	AC-DLS-RP New Construction		4" / 6" / 8" Round Trims	
PT	AC-DLS-QP	Plate	4" / 6" Square Trims	EIEL D
AC-DLS-RJ New Cons		New Construction	4" / 6" / 8" Round Trims	FIELD
PJ	AC-DLS-QJ	Plate w/ J-Box	4" / 6" Square Trims	



### LIGHT ENGINE & PERFORMANCE

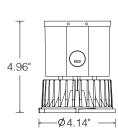
	Engine	Lumen Package	Wattage	CCT Setting	Lumen Output
Delivered Lumens, 82 CRI				3000K	750
	FDLS-20/15/10	800 10w	10w	3500K	780
			4000K	800	
		1,200 15w	15w	3000K	1,125
				3500K	1,170
			4000K	1,200	
				3000K	1,500
		1,600 20w	20w	3500K	1,560
				4000K	1,600





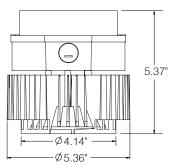
	Engine	Lumen Package	Wattage	CCT Setting	Lumen Output
Delivered Lumens, 82 CRI				3000K	2,160
	FDLS-40/34/27	2,400 27w	27w	3500K	2,295
				4000K	2,430
		3,000	34w	3000K	2,720
				3500K	2,890
				4000K	3,060
				3000K	3,200
		3,600	40w	3500K	3,400
				4000K	3,600





	Engine	Lumen Package	Wattage	CCT Setting	Lumen Output
S,		4,900	45w	3000K	4,635
ner				3500K	4,770
SE	EDI C 60/4E			4000K	4,905
ered 82	FDLS-60/45	6,500		3000K	6,180
Delivered Lumens, 82 CRI			60w	3500K	6,360
				4000K	6,540





## STANDARD FEATURES

### FIELD SELECTABLE COLOR (CCT) AND POWER



Select the desired output power or light color temperature by sliding the respective Power or CCT Selection Switch left or right to the desired value. CCT can be adjusted to 3000/3500/4000K, and for each model Wattage/Lumen can be adjusted to the 3 different levels shown on the performance chart.

### **BUILT-IN JUNCTION BOX**

Each light engine includes a built-in junction box, eliminating the need for traditional housing and making it an ideal solution for hardwired lighting in both new construction and remodel projects. FDLS-20/15/10 and FDLS-40/34/27 has three (3) 1/2" KO, FDLS-60/45 has four (4) 1/2" KO for conduit connections.

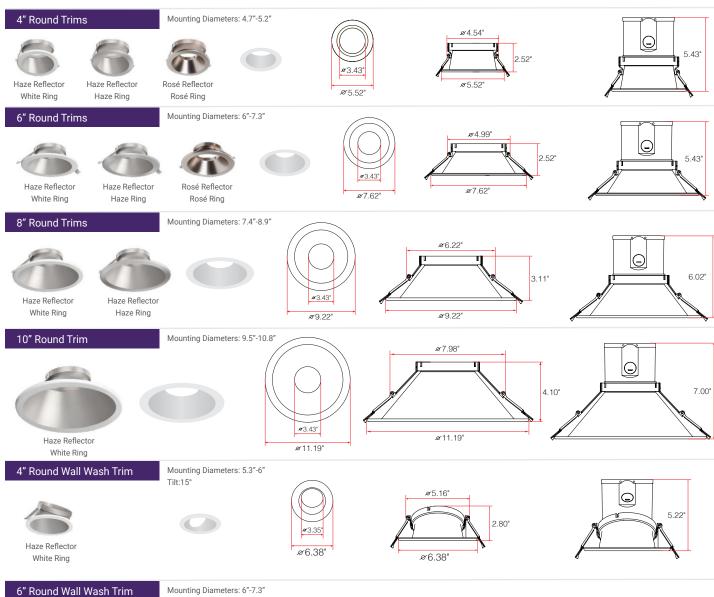






### **TRIMS & DIMENSIONS**

### **TRIMS FOR FDLS-20/15/10**



Tilt:15°

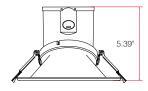


Haze Reflector White Ring











# FDLS-20/1

### TRIMS FOR FDLS-20/15/10 (CONTINUED)



Mounting Diameters: 5.3"-6"

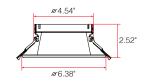


Haze Reflector

White Ring









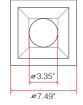
6" Square Trim

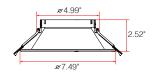
Mounting Diameters: 6"-7.3"

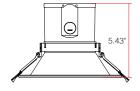


White Ring









4" Square Wall Wash Trim

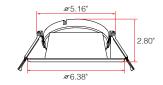
Mounting Diameters: 5.3"-6"

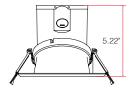


White Ring









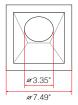
6" Square Wall Wash Trim

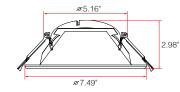
Mounting Diameters: 6"-7.3" Tilt:15°

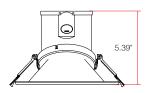


White Ring







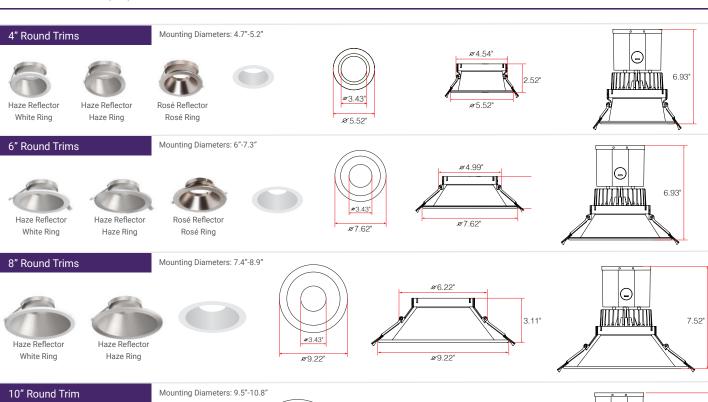






# FDLS-40/35

### TRIMS FOR FDLS-40/34/27

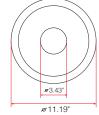


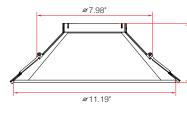


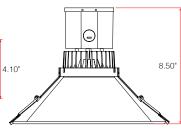
Haze Reflector White Ring











### 4" Round Wall Wash Trim

Mounting Diameters: 5.3"-6" Tilt:15°



Haze Reflector White Ring









### 6" Round Wall Wash Trim

Mounting Diameters: 6"-7.3" Tilt:15°

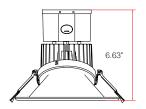


Haze Reflector White Ring











# TRIMS FOR FDLS-40/34/27 (CONTINUED)

### 4" Square Trim

Mounting Diameters: 5.3"-6"











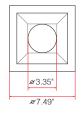
Haze Reflector White Ring

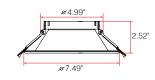
6" Square Trim

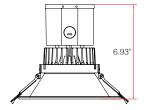
Mounting Diameters: 6"-7.3"











4" Square Wall Wash Trim

Mounting Diameters: 5.3"-6" Tilt:15°



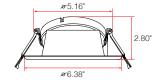


Haze Reflector White Ring

Haze Reflector White Ring









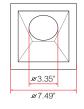
6" Square Wall Wash Trim

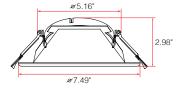
Mounting Diameters: 6"-7.3"

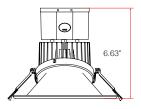
Tilt:15°







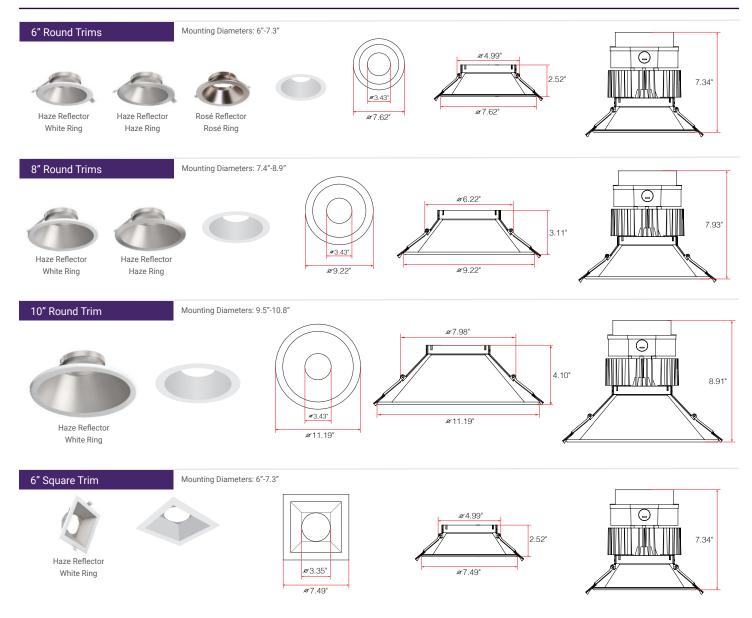








### TRIMS FOR FDLS-60/45



# EMERGENCY BACKUP Option

### EMERGENCY BATTERY BACKUP (OPTION: -EM1000, -EM1900, -EM2500, -EM3200)



When there is a power outage, the optional emergency backup driver and battery will power the FDLS to an reduced brightness for at least 90 mins.

\* FIELD INSTALLED

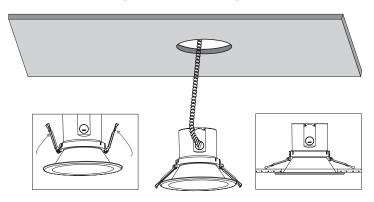




### MOUNTS Option

### **DIRECT MOUNT (STANDARD)**

Direct mount with tension clips on the reflector and trim piece



### **NEW CONSTRUCTION MOUNTING PLATE (OPTION: -PT)**



### NEW CONSTRUCTION MOUNTING PLATE W/ J-BOX (OPTION: -PJ)

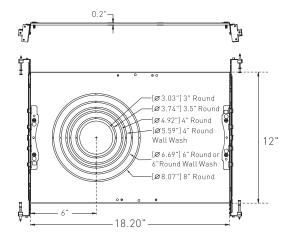


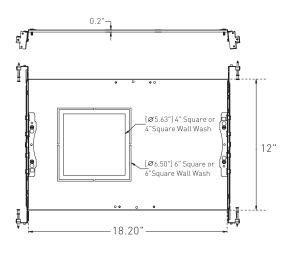
**New Construction Mounting** Plate, with Junction Box, For 4"-8" Round Downlights



**New Construction Mounting** Plate, with Junction Box, For 4"-6" Square Downlights



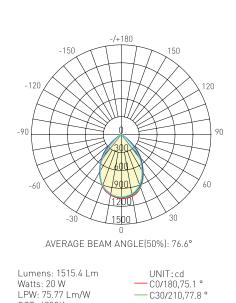






### **PHOTOMETRICS**

### FDLS-20, SQUARE TRIM



Zonal Flux Diagram					
Υ	C0	C45	C90	C135	C180
10	1047	1022	1007	992.7	1027
20	939.2	932.1	893.4	892.4	922.1
30	719.9	739.1	687.3	709.4	711.5
40	471.7	497.7	440.1	477.0	457.8
50	170.8	280.1	158.0	250.7	159.6
60	32.27	62.15	30.20	46.44	33.23
70	2.699	4.711	3.380	4.018	3.231
80	1.543	2.277	2.065	2.620	1.965
90	0.1002	0.0711	0.1300	0.0681	0.1300
100	0.0406	0.0496	0.0406	0.0406	0.0451
110	0.0587	0.1195	0.1128	0.1015	0.1038
120	0.2476	0.3584	0.3114	0.3492	0.3024
130	0.6308	0.7486	0.6814	0.7350	0.7086
140	1.149	1.193	1.150	1.217	1.205
150	1.614	1.648	1.633	1.653	1.682
160	2.155	2.061	2.043	2.088	2.156
170	2.363	2.331	2.304	2.322	2.422
180	2.498	2.444	2.431	2.415	2.503
DEG	EG LUMINOUS INTENSITY:cd				

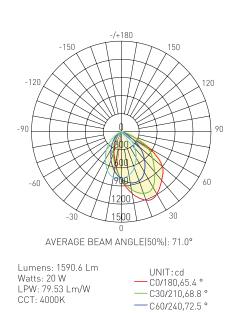
Zonal Lumens				
Υ	φ total			
0-10	98.17			
10-20	371.6			
20-30	748.1			
30-40	1122			
40-50	1389			
50-60	1490			
60-70	1507			
70-80	1510			
80-90	1511			
90-100	1511			
100-110	1511			
110-120	1512			
120-130	1512			
130-140	1513			
140-150	1514			
150-160	1515			
160-170	1515			
170-180	1515			
UNIT: lm				

Luminance cd/(m2)				
G(DEG)	C0/180	C90/270		
85	662	908		
80	395	528		
75	341	445		
70	351	439		
65	965	913		
60	2869	2684		
55	6050	5712		
50	11807	10926		
45	19770	18214		

### FDLS-20, WALL WASH SQUARE TRIM

-C60/240,78.3° --- C90/270,75.1°

CCT: 4000K



Zonal Flux Diagram					
Υ	C0	C45	C90	C135	C180
10	1038	919.6	732. 9	585.3	554. 5
20	1209	984.8	638.0	411.7	353. 7
30	1192	930.7	494.7	267.4	210. 7
40	1053	743. 2	354. 7	155.9	97. 27
50	896.8	548. 9	205.7	66.71	21.28
60	526. 2	310.4	73.90	12.46	5.292
70	136.0	73. 16	14.65	4.282	4.094
80	12.17	4. 784	1.600	3.400	3.395
90	0.1674	0.0925	0.0768	0.1779	0.0947
100	0.0812	0.0812	0.1175	0.2143	0.3070
110	0.0631	0.0925	0.1760	0.5996	0.7989
120	1.081	0.1646	0.3880	1.220	1.633
130	0.1577	0.2909	0.6721	1.526	2.147
140	0.3513	0. 4938	0. 9789	1.914	2.359
150	0.6173	0.7667	1. 276	2.081	2.534
160	0. 9781	1. 127	1. 565	2.182	2.530
170	1. 433	1. 522	1. 781	2.153	2.340
180	1. 935	1.851	1.826	1.847	1.944
DEG	LUMINOUS INTENSITY:cd				

Zonal Lumens				
Υ	φ total			
0-10	73.89			
10-20	284.3			
20-30	592.3			
30-40	929.2			
40-50	1235			
50-60	1461			
60-70	1563			
70-80	1584			
80-90	1586			
90-100	1586			
100-110	1586			
110-120	1587			
120-130	1588			
130-140	1588			
140-150	1589			
150-160	1590			
160-170	1590			
170-180	1591			
UNIT: lm				

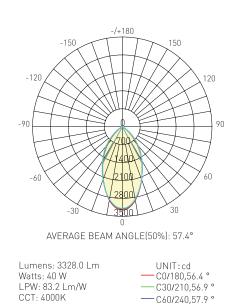
G(DEG)	C0/180	C90/270
85	373	694
80	3114	410
75	9473	779
70	17677	1904
65	31770	3741
60	46776	6569
55	57281	10368
50	62005	14225
45	61916	17780

Luminance cd/(m2)

— C90/270,77.0 °



### FDLS-40, ROUND TRIM



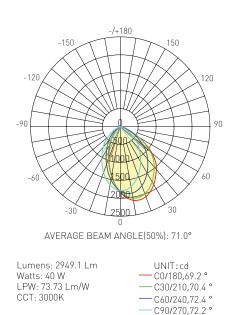
Zonal Flux Diagram					
Υ	C0	C45	C90	C135	C180
10	2916	2896	2871	2857	2912
20	2201	2209	2188	2161	2186
30	1521	1544	1542	1506	1498
40	891.0	956.2	972.7	929.2	869.3
50	335.4	424.5	441.2	395.6	321.0
60	58.83	91.82	97.54	78.63	54.01
70	3.285	2.050	1.504	1.915	3.235
80	1.606	0.8562	0.5011	0.8066	1.591
90	0.1094	0.0676	0.0949	0.0811	0.0721
100	0.0902	0.0812	0.0857	0.0992	0.0993
110	0.1532	0.2302	0.2280	0.2212	0.1986
120	0.5046	0.6317	0.6711	0.6273	0.5778
130	1.262	1.372	1.496	1.403	1.359
140	2.366	2.405	2.542	2.450	2.455
150	3.683	3.717	3.809	3.735	3.735
160	5.157	5.110	5.117	5.088	5.184
170	6.245	6.183	6.145	6.160	6.273
180	6.732	6.710	6.593	6.620	6.755
DEG	LUMINOUS INTENSITY:cd				

### Zonal Lumens 0-10 289.3 10-20 997.9 20-30 1840 30-40 2601 40-50 3101 50-60 3290 60-70 3317 70-80 3318 80-90 3319 90-100 3319 100-110 3319 110-120 3320 120-130 3320 130-140 3322 140-150 3324 150-160 3326 160-170 3327 170-180 3328 UNIT: lm

Luminance cd/(m2)					
G(DEG)	C0/180	C90/270			
85	742	162			
80	524	163			
75	497	189			
70	544	249			
65	1661	3557			
60	6661	11045			
55	15820	22953			
50	29545	38863			
45	47042	55891			

### FDLS-40, WALL WASH ROUND TRIM

-C90/270,58.4°



Υ	C0	C45	C90	C135	C180
10	2085	1962	1700	1461	1397
20	2080	1892	1449	1069	944.4
30	1866	1658	1132	716.4	584.0
40	1572	1343	828.3	446.7	318.6
50	1152	1001	540.1	222.7	107.6
60	593.4	562.8	253.7	36.59	12.99
70	169.5	186.5	59.76	4.875	5.799
80	4.680	16.81	1.576	1.973	2.586
90	0.0996	0.0631	0.0831	0.1709	0.1311
100	0.0811	0.0677	0.1123	0.2708	0.3476
110	0.0812	0.1309	0.3018	0.6949	0.9297
120	0.2162	0.3294	0.7163	1.394	1.832
130	0.4958	0.6814	1.271	2.125	2.851
140	0.9914	1.173	1.857	2.832	3.771
150	1.650	1.822	2.520	3.504	4.325
160	2.502	2.603	3.201	3.991	4.613
170	3.422	3.432	3.765	4.225	4.744
180	4.216	4.104	4.000	4.054	4.230
DEG	LUMINOUS INTENSITY:cd				

Zonal Flux Diagram

Υ	φ total			
0-10	166.4			
10-20	610.3			
20-30	1207			
30-40	1830			
40-50	2383			
50-60	2750			
60-70	2907			
70-80	2940			
80-90	2941			
90-100	2941			
100-110	2942			
110-120	2942			
120-130	2943			
130-140	2945			
140-150	2946			
150-160	2948			
160-170	2949			
170-180	2949			
UNIT: lm				

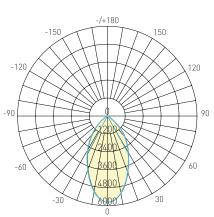
Zonal Lumens

G(DEG)	C0/180	C90/270
85	182	531
80	1526	514
75	14095	3272
70	28056	9893
65	45639	18782
60	67192	28730
55	86754	38552
50	101454	47569
45	111057	55165

Luminance cd/(m2)



### FDLS-60, ROUND TRIM



Lumens: 6080.5 Lm Watts: 60 W LPW: 105.62 Lm/W CCT: 4000K

AVERAGE BEAM ANGLE(50%): 56.9° UNIT:cd - C0/180,56.9 ° - C30/210,56.9 ° -C60/240,56.9° -C90/270,57.1°

Zonal Flux Diagram					
Υ	C0	C45	C90	C135	C180
10	5234	5256	5211	5157	5112
20	4001	4030	3965	3873	3798
30	2811	2846	2776	2693	2616
40	1791	1860	1784	1668	1555
50	764.7	867.3	846.4	732.7	625.5
60	131.8	177.2	187.4	148.0	114.0
70	2.926	2.726	2.774	2.690	2.956
80	1.046	0.9556	1.165	1.244	1.296
90	0.9362	0.9751	1.060	1.237	0.5501
100	2.605	2.577	2.790	3.024	1.718
110	5.634	5.497	5.834	6.187	4.246
120	10.14	9.931	10.37	10.83	8.178
130	15.96	15.64	16.15	16.63	13.30
140	22.23	21.84	22.31	22.73	19.11
150	27.81	27.32	27.71	27.98	24.72
160	32.27	31.80	32.01	32.24	29.85
170	35.31	35.05	35.00	35.13	33.99
180	36.50	36.61	36.18	36.24	36.48
DEG	LUMINOUS INTENSITY:cd				

Zonal L	umens
Υ	φ total
0-10	521.5
10-20	1795
20-30	3302
30-40	4671
40-50	5594
50-60	5952
60-70	6001
70-80	6003
80-90	6004
90-100	6005
100-110	6009
110-120	6016
120-130	6027
130-140	6040
140-150	6055
150-160	6068
160-170	6077
170-180	6080

UNIT: lm

G(DEG)	C0/180	C90/270
85	503	597
80	343	381
75	383	379
70	487	461
65	3558	5987
60	15005	21281
55	36550	45136
50	67697	74783
45	101909	104814

