

# Photometric Report - (76-4-L40-840-R1684) - Page 1 of 4

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## Indoor Photometric Report

C:\WORK\PHOTOPIA\76-4-L53-840-L40-R1684\76-4-L40-840-R1684.ray

Created: Tue, 7 Jan 2020 10:19:17

### PRODUCT INFORMATION

Test number: 1  
Test date: Tue, 7 Jan 2020 10:19:17  
Manufacturer:  
Catalog number:  
Description: 76-4-L40-840-R1684  
Lamp catalog number: AM10CC840D56N2S00C  
Lamp description: LED 22.6W 22" 56 LED linear LED module 4000K

### ANALYSIS SUMMARY

Traced 10000000 of 10000000 rays.

Rays limited to 25 reactions.

Rays traced to a minimum of 1% of their initial magnitude.

Report type: Indoor

Lamp flux energy units: Lumens

far field sphere Test Distance: 20.00ft

Photometric Type: C

Symmetry: Quadrilateral

### LUMENS EXITING FAR FIELD SPHERE

	Lumens (%)	Reaction
2092 ( 52.3%)		0
924 ( 23.1%)		1
391 ( 9.8%)		2
156 ( 3.9%)		3
74 ( 1.8%)		4
32 ( 0.8%)		5
15 ( 0.4%)		6
7 ( 0.2%)		7
3 ( 0.1%)		8
1 ( 0.0%)		9
1 ( 0.0%)		10
0 ( 0.0%)		11
0 ( 0.0%)		12
0 ( 0.0%)		13
0 ( 0.0%)		14
0 ( 0.0%)		15
0 ( 0.0%)		16
0 ( 0.0%)		17
0 ( 0.0%)		18
0 ( 0.0%)		19
0 ( 0.0%)		20
0 ( 0.0%)		21
0 ( 0.0%)		22
0 ( 0.0%)		23
0 ( 0.0%)		24
0 ( 0.0%)		25
3695 ( 92.4%)		Total

### LUMEN INTERACTION WITH SYSTEM

Attenuated (%)	Absorbed (%)	Incident (%)	Layer Name
0 ( 0.0%)	1 ( 0.0%)	9 ( 0.2%)	CHANNEL
0 ( 0.0%)	0 ( 0.0%)	0 ( 0.0%)	END PLATE 1
0 ( 0.0%)	0 ( 0.0%)	0 ( 0.0%)	END PLATE 2
0 ( 0.0%)	0 ( 0.0%)	4 ( 0.1%)	LAMP BRACKET 1
0 ( 0.0%)	0 ( 0.0%)	4 ( 0.1%)	LAMP BRACKET 2

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0 ( 0.0%)	0 ( 0.0%)	0 ( 0.0%)	LAMP-AM10CC840D56N2S00C1
0 ( 0.0%)	1 ( 0.0%)	5 ( 0.1%)	LAMP-AM10CC840D56N2S00C2
0 ( 0.0%)	1 ( 0.0%)	6 ( 0.1%)	LAMP-AM10CC840D56N2S00C3
0 ( 0.0%)	40 ( 1.0%)	176 ( 4.4%)	LAMP-AM10CC840D56N2S00C4
0 ( 0.0%)	6 ( 0.1%)	6 ( 0.2%)	LAMP-AM10CC840D56N2S00C5
0 ( 0.0%)	255 ( 6.4%)	3191 ( 79.8%)	R1684
0 ( 0.0%)	305 ( 7.6%)	3402 ( 85.1%)	Total

Attenuated (%)	Absorbed (%)	Incident (%)	Material Name
0 ( 0.0%)	6 ( 0.1%)	6 ( 0.2%)	ledblkbase
0 ( 0.0%)	1 ( 0.0%)	6 ( 0.1%)	ledphos
0 ( 0.0%)	1 ( 0.0%)	6 ( 0.1%)	ledwtbrd
0 ( 0.0%)	257 ( 6.4%)	3209 ( 80.2%)	paint008
0 ( 0.0%)	40 ( 1.0%)	176 ( 4.4%)	whitepcb
0 ( 0.0%)	305 ( 7.6%)	3402 ( 85.1%)	Total

ANOMALOUS LUMENS

Reached interreflection limit:	0.18 ( 0.0%)
Fell below minimum ray energy:	0.00 ( 0.0%)
Redirected lamp distribution:	0.00 ( 0.0%)
Transmitted through shadow geometry:	0.00 ( 0.0%)
Ray exited a material prior to entering:	0.00 ( 0.0%)
Ray enter/exit material mismatch:	0.00 ( 0.0%)
TIR within an incorrect material:	0.00 ( 0.0%)
Ray never exited a material:	0.00 ( 0.0%)
Out of SPD range reflect/transmit:	0.00 ( 0.0%)
Out of SPD range IOR:	0.00 ( 0.0%)
Intersected with Overlapping Surfaces:	0.00 ( 0.0%)
Exited Outside of Photometric distribution:	0.00 ( 0.0%)

LUMINAIRE PROPERTIES

Number of lamps: 2  
Lumens per lamp: 2000.0  
Input watts: 27.0  
Distribution: Semi-Direct  
Symmetry: Quadrilateral  
Photometric Type: C  
Luminous shape: Rectangle with luminous sides  
Luminous dimensions (feet)  
0 - 180 Axis: 0.4  
90 - 270 Axis: 4.0  
Height: 0.5

CANDELA DISTRIBUTION

Lumen basis: 4,000	Internal multiplier: 1.00
Ballast factor: 1.00	Tilt factor geometry: No tilt factor.

Candela Distribution

0.00	22.50	45.00	67.50	90.00
0.00	1181.56	1181.56	1181.56	1181.56
10.00	794.64	790.93	784.22	892.17
20.00	783.87	779.39	766.71	751.07
30.00	756.69	754.18	730.55	708.41
40.00	698.65	682.42	659.97	629.57
50.00	658.94	638.23	585.28	540.53
60.00	607.21	567.80	506.74	448.10
70.00	503.30	482.00	407.27	348.32
80.00	329.39	321.48	273.15	225.46
90.00	266.78	245.51	178.91	106.46

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100.00	314.51	268.01	179.92	74.56	19.19
110.00	315.00	259.41	116.52	27.51	13.54
120.00	130.95	101.53	43.53	9.65	9.87
130.00	45.99	27.51	7.88	6.05	7.03
140.00	1.06	1.06	2.89	3.96	4.40
150.00	0.02	0.53	1.59	2.33	2.76
160.00	0.01	0.15	0.71	1.25	1.36
170.00	0.03	0.04	0.18	0.39	0.45
180.00	0.02	0.02	0.02	0.02	0.02

## INDOOR REPORT

### ZONAL LUMENS

Cone	Between	Lumens
2.50	0.00 - 5.00	28.25
10.00	5.00 - 15.00	168.79
20.00	15.00 - 25.00	304.25
30.00	25.00 - 35.00	414.58
40.00	35.00 - 45.00	474.81
50.00	45.00 - 55.00	503.54
60.00	55.00 - 65.00	489.95
70.00	65.00 - 75.00	427.27
80.00	75.00 - 85.00	292.67
90.00	85.00 - 95.00	188.41
100.00	95.00 - 105.00	185.88
110.00	105.00 - 115.00	146.07
120.00	115.00 - 125.00	53.38
130.00	125.00 - 135.00	14.25
140.00	135.00 - 145.00	1.87
150.00	145.00 - 155.00	0.80
160.00	155.00 - 165.00	0.26
170.00	165.00 - 175.00	0.04
177.50	175.00 - 180.00	0.00

### Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0.00 - 30.00	708.58	17.71	19.18
0.00 - 40.00	1153.28	28.83	31.21
0.00 - 60.00	2139.20	53.48	57.89
0.00 - 90.00	3198.31	79.96	86.56
90.00 - 120.00	452.85	11.32	12.26
90.00 - 150.00	496.06	12.40	13.42
90.00 - 180.00	496.76	12.42	13.44
0.00 - 180.00	3695.08	92.38	100.00

Total Luminaire Optical Efficiency = 92.38%

### Luminaire Spacing Criterion (spacing to mounting height ratio)

Two luminaires, plane 0: 0.88  
Two luminaires, plane 90: 1.15  
Four luminaires: 1.19

### Full Beam Angle:

0 - 180      90 - 270  
86.69      89.75

### Average Luminaire Luminance (cd/m^2)

	0.00	22.50	45.00	67.50	90.00
0.00	7182.36	7182.36	7182.36	7182.36	7182.36

45.00	2605.04	2582.46	2711.71	3140.88	5167.93
55.00	2421.32	2357.24	2420.37	2818.46	4848.39
65.00	2182.58	2115.18	2128.39	2501.75	4571.40
75.00	1737.54	1724.48	1724.13	2077.07	4224.20
85.00	1370.17	1345.57	1299.54	1470.27	3378.76