

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P687841

Luminaire Tested: FLR-HA-22-L3C3 (HI)-40-CA08

Issue Date: 5/22/2023

Test Information

Test Method: LM-79-2019
Report Number: P687841
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2303-938-1)
Test Lab: INNOVATION CENTER
Issue Date: 5/22/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FLR-HA-22-L3C3 (HI)-40-CA08
Description: Fail-Safe - FLR Fully Luminous Recessed 2X2 4000K Luminaire at High Lumen setting for High Abuse
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

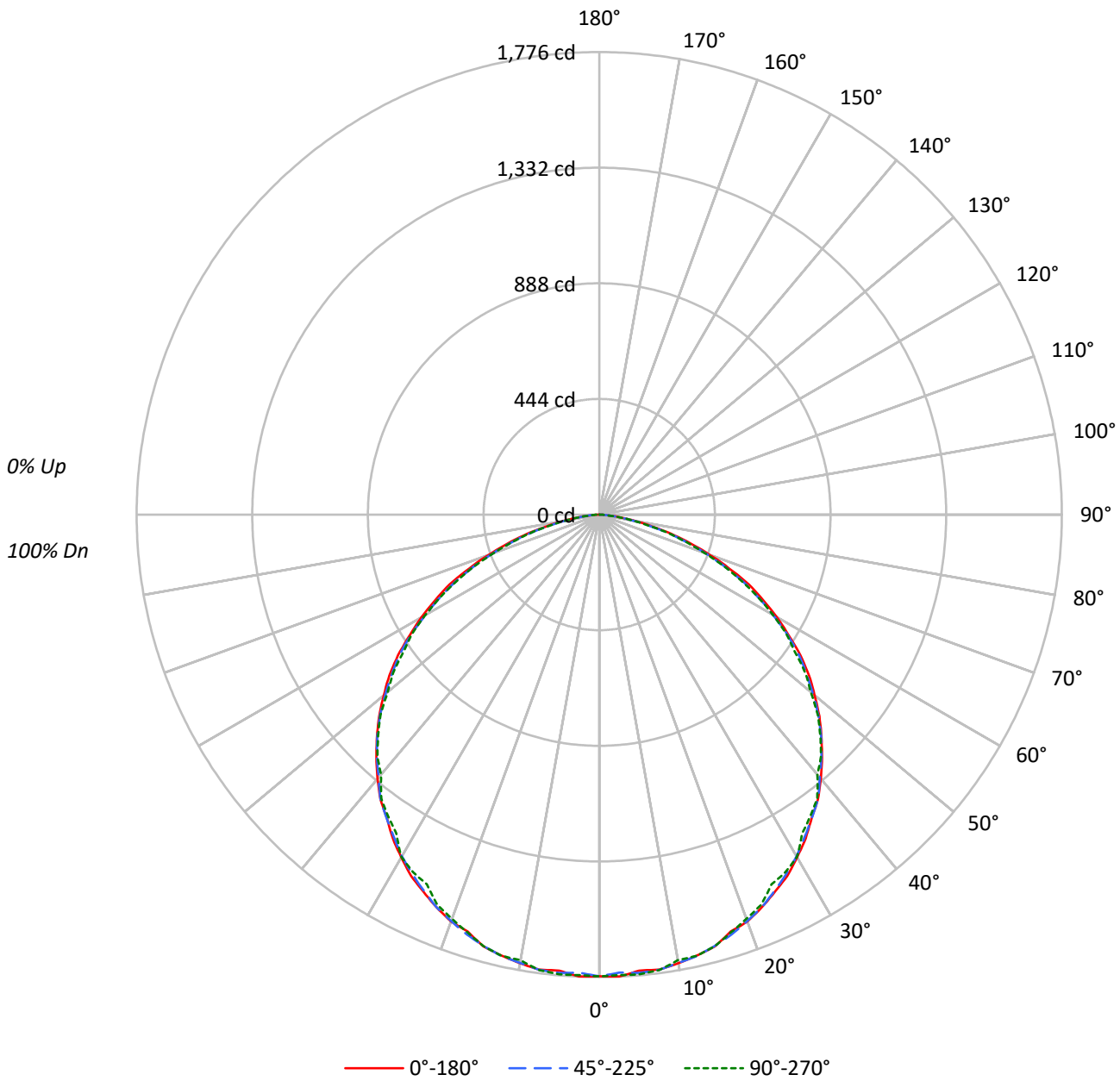
Lumens per Lamp: N/A
Luminaire Lumens: 4979.8 lumens
Efficiency: N/A
Efficacy: 129.3 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.26 / 1.39
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 38.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	105	101	97	107	102	99	95	98	95	92	94	92	89	91	89	87	85
2	99	91	85	79	97	90	83	78	86	81	76	83	78	75	80	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	70	66	62	60
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	58	53	51
5	76	64	55	48	74	62	54	48	60	53	47	58	52	47	57	51	46	44
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41	39
7	65	52	43	37	64	51	43	37	49	42	37	48	41	36	47	41	36	34
8	61	47	39	33	59	47	38	33	45	38	33	44	37	32	43	37	32	30
9	57	43	35	30	55	43	35	30	42	34	29	41	34	29	40	34	29	27
10	53	40	32	27	52	39	32	27	38	31	27	38	31	27	37	31	26	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4771	4771	4771
5°	4748	4772	4786
10°	4781	4776	4749
15°	4782	4777	4780
20°	4762	4757	4731
25°	4743	4732	4650
30°	4722	4708	4719
35°	4671	4674	4642
40°	4650	4627	4577
45°	4591	4584	4567
50°	4518	4484	4436
55°	4425	4383	4299
60°	4233	4142	4142
65°	4040	3875	3835
70°	3556	3415	3373
75°	2968	2820	2847
80°	2122	1998	1984
85°	1105	1022	1078

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 4601 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	168.0	3.4
10°-20°	483.1	9.7
20°-30°	735.0	14.8
30°-40°	890.5	17.9
40°-50°	927.2	18.6
50°-60°	830.2	16.7
60°-70°	602.7	12.1
70°-80°	292.7	5.9
80°-90°	50.4	1.0
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1386.1	27.8
0°-40°	2276.5	45.7
0°-60°	4034.0	81.0
0°-90°	4979.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4979.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1773	1773	1773	1773	1773	
5°	1758	1768	1767	1763	1772	168
15°	1716	1713	1715	1702	1716	483
25°	1597	1601	1594	1591	1566	737
35°	1422	1430	1423	1427	1413	892
45°	1206	1209	1205	1198	1200	931
55°	943	936	934	924	916	840
65°	634	618	608	607	602	619
75°	286	279	271	272	274	304
85°	36	37	33	33	35	53
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1772.8	1772.8	1772.8	1772.8	1772.8
2.5°	1775.5	1774.6	1760.3	1766.6	1770.1
5°	1757.6	1768.4	1766.6	1763.0	1771.9
7.5°	1762.1	1757.6	1763.0	1762.1	1763.9
10°	1749.6	1745.1	1747.8	1748.7	1737.9
12.5°	1734.4	1731.7	1736.1	1739.7	1735.2
15°	1716.5	1712.9	1714.7	1702.1	1715.6
17.5°	1678.9	1687.8	1690.5	1683.3	1682.4
20°	1662.8	1660.1	1661.0	1658.3	1652.0
22.5°	1632.3	1643.1	1632.3	1627.0	1622.5
25°	1597.4	1601.0	1593.8	1591.2	1566.1
27.5°	1564.3	1563.4	1555.4	1555.4	1548.2
30°	1519.6	1513.3	1515.1	1507.9	1518.7
32.5°	1474.8	1475.7	1467.7	1470.4	1450.7
35°	1422.0	1430.1	1422.9	1427.4	1413.1
37.5°	1379.1	1373.7	1379.1	1371.9	1374.6
40°	1323.6	1321.8	1317.3	1319.1	1303.0
42.5°	1266.3	1263.6	1262.7	1259.1	1260.0
45°	1206.3	1209.0	1204.6	1198.3	1200.1
47.5°	1146.4	1149.1	1141.0	1133.0	1138.3
50°	1079.3	1081.1	1071.2	1068.5	1059.6
52.5°	1015.7	1007.7	1002.3	997.8	996.9
55°	943.2	936.1	934.3	923.6	916.4
57.5°	862.7	860.9	855.5	847.5	851.1
60°	786.6	779.5	769.6	767.8	769.6
62.5°	708.8	700.7	688.2	691.8	688.2
65°	634.5	617.5	608.5	606.8	602.3
67.5°	539.6	527.1	519.9	517.3	519.1
70°	451.9	451.0	434.0	431.4	428.7
72.5°	366.9	359.8	349.9	349.0	348.1
75°	285.5	279.2	271.2	272.1	273.8
77.5°	205.8	199.6	192.4	195.1	191.5
80°	136.9	135.1	128.9	128.0	128.0
82.5°	81.4	77.9	74.3	74.3	75.2
85°	35.8	36.7	33.1	33.1	34.9
87.5°	8.9	9.8	8.9	8.9	8.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)