

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: P688209

Luminaire Tested: FLR-HA-24-45-35-CP187

Issue Date: 5/22/2023

Test Information

Test Method: LM-79-2019
Report Number: P688209
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2207-724-13)
Test Lab: INNOVATION CENTER
Issue Date: 5/22/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FLR-HA-24-45-35-CP187
Description: Fail-Safe - FLR Fully Luminous Recessed 2X4 3500K Luminaire for High Abuse
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

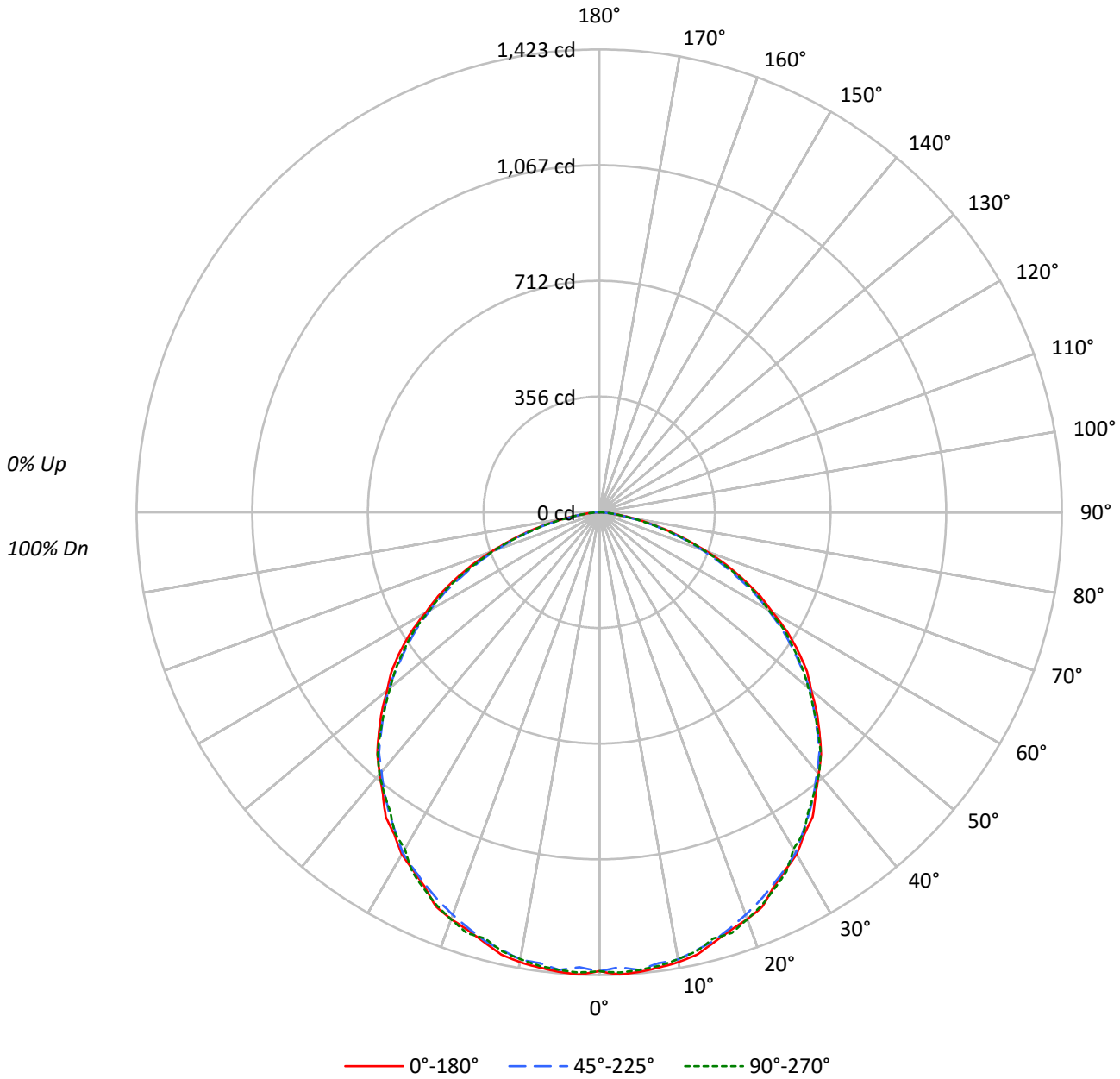
Lumens per Lamp: N/A
Luminaire Lumens: 3917.2 lumens
Efficiency: N/A
Efficacy: 101.0 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.27 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 38.8
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	103	99	95	98	95	92	94	92	90	91	89	87	85
2	100	92	85	79	97	90	84	79	86	81	77	83	79	75	80	76	73	71
3	91	81	73	66	88	79	72	66	76	70	64	73	68	63	71	66	62	60
4	83	71	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	51
5	77	64	55	48	74	63	54	48	61	53	48	59	52	47	57	51	47	44
6	71	57	49	42	69	57	48	42	55	47	42	53	46	41	51	46	41	39
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34
8	61	48	39	33	59	47	39	33	45	38	33	44	38	33	43	37	33	31
9	57	44	35	30	56	43	35	30	42	35	30	41	34	29	40	34	29	28
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1899	1899	1899
5°	1916	1908	1908
10°	1919	1908	1906
15°	1906	1900	1890
20°	1906	1886	1907
25°	1886	1877	1896
30°	1887	1879	1858
35°	1880	1851	1842
40°	1844	1830	1847
45°	1823	1804	1810
50°	1783	1770	1757
55°	1753	1697	1713
60°	1656	1612	1620
65°	1558	1484	1530
70°	1380	1315	1356
75°	1137	1086	1082
80°	812	754	754
85°	395	384	395

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1823 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.1	3.4
10°-20°	384.5	9.8
20°-30°	584.3	14.9
30°-40°	706.4	18.0
40°-50°	732.0	18.7
50°-60°	650.6	16.6
60°-70°	466.5	11.9
70°-80°	222.1	5.7
80°-90°	36.8	0.9
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°	1102.9	28.2
0°-40°	1809.3	46.2
0°-60°	3191.8	81.5
0°-90°	3917.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3917.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1411	1411	1411	1411	1411	
5°	1419	1412	1413	1406	1413	135
15°	1368	1364	1364	1356	1357	387
25°	1270	1267	1264	1263	1277	588
35°	1144	1126	1127	1128	1122	712
45°	958	947	948	944	951	739
55°	748	725	723	727	730	665
65°	490	463	466	472	480	483
75°	219	198	209	210	208	233
85°	26	23	25	25	26	39
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1411.3	1411.3	1411.3	1411.3	1411.3
2.5°	1422.6	1415.1	1400.0	1409.8	1416.6
5°	1418.8	1412.0	1412.8	1406.0	1412.8
7.5°	1412.0	1405.2	1398.5	1396.2	1406.8
10°	1404.5	1391.7	1396.2	1390.9	1395.4
12.5°	1393.2	1382.6	1379.6	1372.8	1382.6
15°	1368.3	1363.8	1363.8	1356.2	1357.0
17.5°	1346.4	1337.4	1340.4	1336.6	1356.2
20°	1331.3	1317.0	1317.0	1314.7	1332.1
22.5°	1312.5	1295.9	1292.1	1293.6	1307.2
25°	1270.2	1267.2	1264.2	1263.4	1277.0
27.5°	1240.1	1231.8	1237.0	1234.8	1246.1
30°	1214.4	1200.1	1209.1	1200.8	1195.6
32.5°	1173.7	1168.4	1166.1	1166.9	1169.2
35°	1144.3	1126.2	1126.9	1127.7	1121.6
37.5°	1093.0	1095.2	1085.4	1085.4	1086.9
40°	1050.0	1047.0	1041.7	1041.7	1051.5
42.5°	1010.0	996.4	1002.5	993.4	1008.5
45°	958.0	947.4	948.1	944.4	951.2
47.5°	906.7	897.6	894.6	897.6	894.6
50°	851.6	845.6	845.6	842.5	839.5
52.5°	805.6	784.5	783.0	787.5	788.2
55°	747.5	724.9	723.4	727.1	730.2
57.5°	686.4	660.0	665.3	671.3	675.1
60°	615.5	596.6	598.9	608.7	601.9
62.5°	558.2	532.5	536.3	544.6	544.6
65°	489.5	463.1	466.2	472.2	480.5
67.5°	423.2	395.2	399.8	406.6	408.8
70°	350.7	321.3	334.2	340.9	344.7
72.5°	281.4	258.7	270.0	273.8	276.8
75°	218.7	197.6	208.9	210.4	208.2
77.5°	155.4	140.3	149.4	152.4	150.1
80°	104.8	89.8	97.3	99.6	97.3
82.5°	57.3	52.8	55.8	56.6	55.1
85°	25.6	22.6	24.9	24.9	25.6
87.5°	7.5	6.8	6.8	7.5	6.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)