

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: P688108

Luminaire Tested: FLR-HA-22-35-40-CP250

Issue Date: 5/22/2023

Test Information

Test Method: LM-79-2019
Report Number: P688108
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2207-724-14)
Test Lab: INNOVATION CENTER
Issue Date: 5/22/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FLR-HA-22-35-40-CP250
Description: Fail-Safe - FLR Fully Luminous Recessed 2X2 4000K Luminaire for High Abuse
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

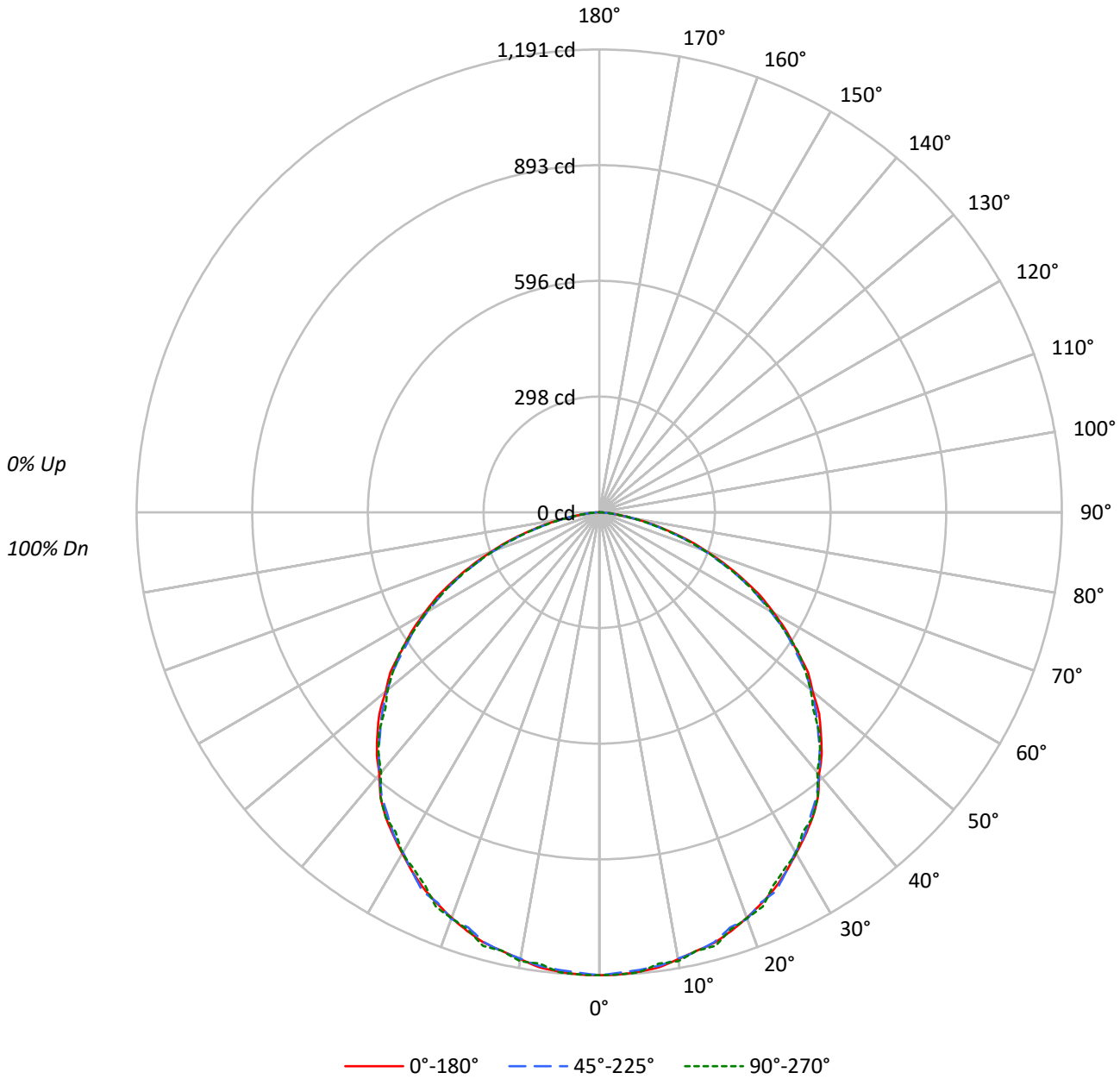
Lumens per Lamp: N/A
Luminaire Lumens: 3302.2 lumens
Efficiency: N/A
Efficacy: 105.2 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.26 / 1.38
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 31.4
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	90	91	89	87	85
2	100	92	85	79	97	90	84	78	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	53	51
5	76	64	55	48	74	63	54	48	61	53	48	59	52	47	57	51	46	44
6	71	57	49	42	69	56	48	42	55	47	42	53	46	41	51	45	41	39
7	65	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	38	33	43	37	32	31
9	57	44	35	30	55	43	35	30	42	35	30	41	34	29	40	34	29	27
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°	3206	3206	3206
5°	3206	3194	3210
10°	3191	3188	3205
15°	3195	3190	3219
20°	3182	3189	3183
25°	3173	3195	3146
30°	3151	3139	3149
35°	3148	3121	3148
40°	3093	3091	3069
45°	3072	3033	3048
50°	3003	2979	2976
55°	2916	2875	2934
60°	2797	2736	2766
65°	2608	2551	2555
70°	2311	2246	2271
75°	1902	1830	1856
80°	1334	1305	1325
85°	685	645	645

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3072 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.6	3.4
10°-20°	323.2	9.8
20°-30°	491.3	14.9
30°-40°	594.2	18.0
40°-50°	615.8	18.6
50°-60°	549.6	16.6
60°-70°	394.7	12.0
70°-80°	189.3	5.7
80°-90°	31.4	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°	927.1	28.1
0°-40°	1521.3	46.1
0°-60°	2686.7	81.4
0°-90°	3302.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3302.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1191	1191	1191	1191	1191	
5°	1187	1191	1182	1183	1188	113
15°	1147	1148	1145	1145	1155	323
25°	1069	1066	1076	1063	1060	492
35°	958	951	950	946	958	598
45°	807	801	797	796	801	622
55°	622	615	613	612	625	557
65°	410	398	401	395	401	405
75°	183	171	176	176	178	198
85°	22	21	21	21	21	33
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1191.4	1191.4	1191.4	1191.4	1191.4
2.5°	1190.7	1192.0	1186.3	1185.0	1190.7
5°	1186.9	1190.7	1182.5	1183.1	1188.2
7.5°	1181.2	1178.7	1177.4	1181.9	1171.7
10°	1167.9	1173.6	1166.7	1163.5	1173.0
12.5°	1156.5	1157.2	1157.8	1159.1	1155.9
15°	1147.0	1148.3	1145.1	1145.1	1155.3
17.5°	1130.0	1132.5	1120.5	1128.1	1125.5
20°	1111.0	1108.4	1113.5	1111.6	1111.6
22.5°	1090.1	1090.1	1087.5	1088.8	1098.9
25°	1068.6	1066.0	1076.1	1062.9	1059.7
27.5°	1042.6	1040.1	1042.6	1035.6	1034.4
30°	1014.1	1007.8	1010.3	1010.9	1013.5
32.5°	986.3	979.9	984.4	979.9	975.5
35°	958.4	950.8	950.2	946.4	958.4
37.5°	924.9	916.6	919.8	907.8	924.2
40°	880.5	875.5	879.9	876.1	873.6
42.5°	847.6	841.9	840.0	837.5	841.3
45°	807.1	801.4	797.0	796.4	800.8
47.5°	767.9	753.3	757.1	751.4	746.3
50°	717.2	713.4	711.5	705.8	710.9
52.5°	678.0	664.0	667.2	662.1	667.8
55°	621.6	614.7	612.8	611.5	625.4
57.5°	572.9	564.0	565.3	562.1	564.0
60°	519.7	511.5	508.3	507.7	514.0
62.5°	469.7	452.6	455.1	454.5	457.7
65°	409.6	397.5	400.7	395.0	401.3
67.5°	352.0	339.9	341.2	339.9	343.1
70°	293.7	280.4	285.5	283.0	288.7
72.5°	243.1	227.3	231.7	227.3	232.3
75°	182.9	170.9	176.0	176.0	178.5
77.5°	134.8	124.1	127.9	126.6	129.1
80°	86.1	81.7	84.2	82.3	85.5
82.5°	49.4	46.2	46.2	47.5	48.1
85°	22.2	20.9	20.9	20.9	20.9
87.5°	5.7	5.7	5.7	5.7	5.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)