

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: P688199

Luminaire Tested: FLR-HA-22-35-50-CP187

Issue Date: 5/22/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P688199  
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-22-35-50-CP187  
Description: Fail-Safe - FLR Fully Luminous Recessed 2X2 5000K Luminaire for High Abuse  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

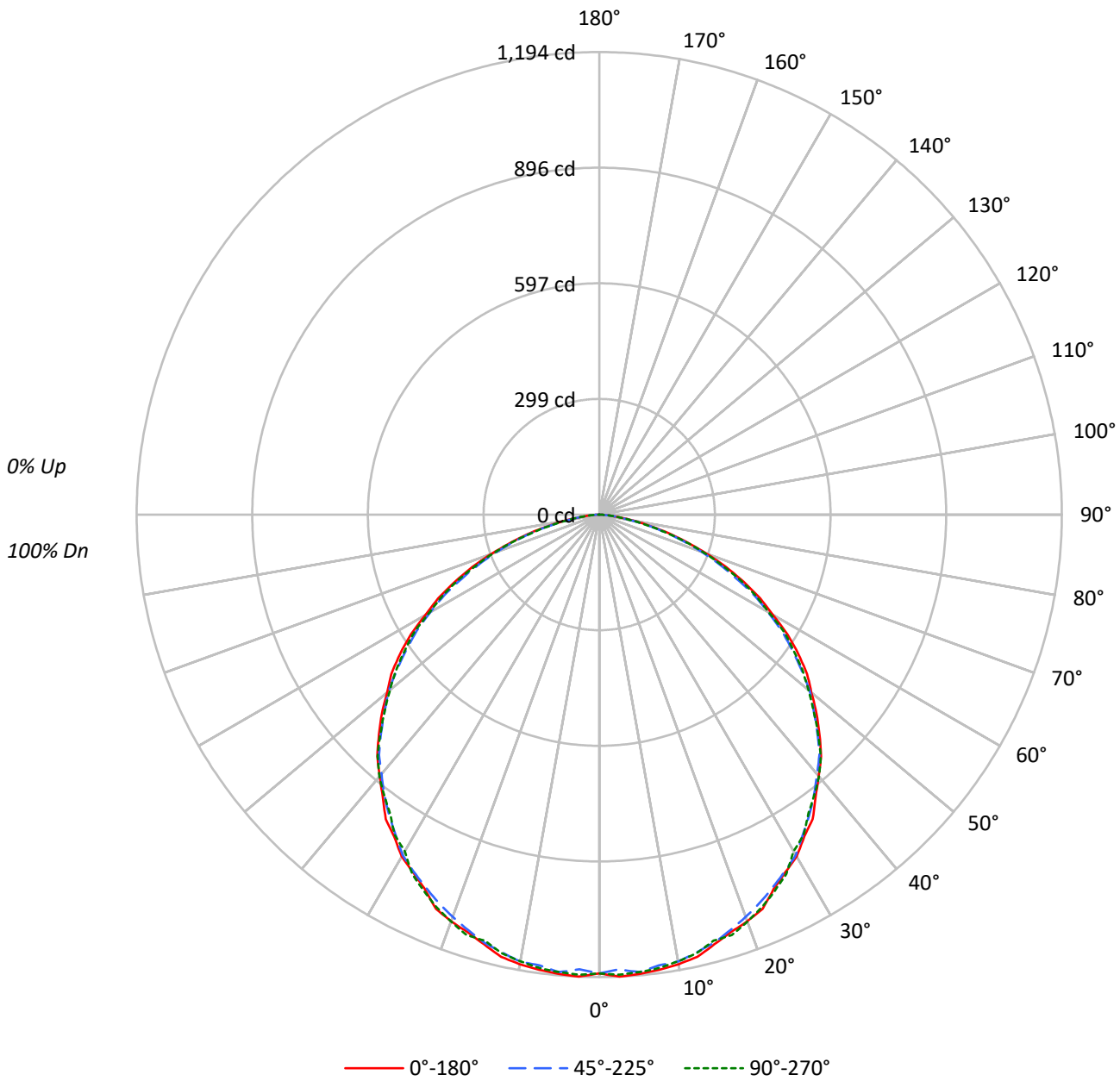
Lumens per Lamp: N/A  
Luminaire Lumens: 3287.6 lumens  
Efficiency: N/A  
Efficacy: 104.7 lumens/watt  
Spacing Criteria (0/90/45): 1.27 / 1.27 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

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	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°	3187	3187	3187
5°	3217	3203	3203
10°	3221	3202	3200
15°	3199	3189	3173
20°	3200	3165	3202
25°	3165	3150	3182
30°	3167	3153	3118
35°	3155	3107	3093
40°	3095	3071	3100
45°	3060	3029	3038
50°	2992	2971	2950
55°	2943	2848	2875
60°	2780	2705	2719
65°	2616	2491	2568
70°	2316	2206	2276
75°	1909	1824	1816
80°	1364	1266	1266
85°	664	645	664

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3060 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	112.5	3.4
10°-20°	322.7	9.8
20°-30°	490.4	14.9
30°-40°	592.8	18.0
40°-50°	614.3	18.7
50°-60°	546.0	16.6
60°-70°	391.5	11.9
70°-80°	186.4	5.7
80°-90°	30.9	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°	925.6	28.2
0°-40°	1518.5	46.2
0°-60°	2678.8	81.5
0°-90°	3287.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3287.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1184	1184	1184	1184	1184	
5°	1191	1185	1186	1180	1186	113
15°	1148	1145	1145	1138	1139	325
25°	1066	1064	1061	1060	1072	493
35°	960	945	946	946	941	597
45°	804	795	796	793	798	620
55°	627	608	607	610	613	558
65°	411	389	391	396	403	406
75°	184	166	175	177	175	195
85°	22	19	21	21	22	33
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1184.4	1184.4	1184.4	1184.4	1184.4
2.5°	1193.9	1187.6	1175.0	1183.2	1188.9
5°	1190.8	1185.1	1185.7	1180.0	1185.7
7.5°	1185.1	1179.4	1173.7	1171.8	1180.6
10°	1178.7	1168.0	1171.8	1167.4	1171.2
12.5°	1169.3	1160.4	1157.9	1152.2	1160.4
15°	1148.4	1144.6	1144.6	1138.2	1138.9
17.5°	1130.0	1122.4	1124.9	1121.8	1138.2
20°	1117.3	1105.3	1105.3	1103.4	1118.0
22.5°	1101.5	1087.6	1084.4	1085.7	1097.1
25°	1066.1	1063.5	1061.0	1060.4	1071.8
27.5°	1040.7	1033.8	1038.2	1036.3	1045.8
30°	1019.2	1007.2	1014.8	1007.8	1003.4
32.5°	985.0	980.6	978.7	979.3	981.2
35°	960.3	945.2	945.8	946.4	941.4
37.5°	917.3	919.2	911.0	911.0	912.2
40°	881.2	878.7	874.2	874.2	882.5
42.5°	847.7	836.3	841.3	833.7	846.4
45°	804.0	795.1	795.8	792.6	798.3
47.5°	760.9	753.3	750.8	753.3	750.8
50°	714.7	709.7	709.7	707.1	704.6
52.5°	676.1	658.4	657.1	660.9	661.5
55°	627.4	608.4	607.1	610.3	612.8
57.5°	576.1	553.9	558.4	563.4	566.6
60°	516.6	500.7	502.6	510.9	505.2
62.5°	468.5	446.9	450.1	457.1	457.1
65°	410.9	388.7	391.2	396.3	403.3
67.5°	355.1	331.7	335.5	341.2	343.1
70°	294.4	269.7	280.4	286.1	289.3
72.5°	236.1	217.1	226.6	229.8	232.3
75°	183.6	165.9	175.4	176.6	174.7
77.5°	130.4	117.7	125.3	127.9	126.0
80°	88.0	75.3	81.7	83.6	81.7
82.5°	48.1	44.3	46.8	47.5	46.2
85°	21.5	19.0	20.9	20.9	21.5
87.5°	6.3	5.7	5.7	6.3	5.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)