

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: P688197

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

Issue Date: 5/22/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P688197  
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-22-35-35-CP187  
Description: Fail-Safe - FLR Fully Luminous Recessed 2X2 3500K Luminaire for High Abuse  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

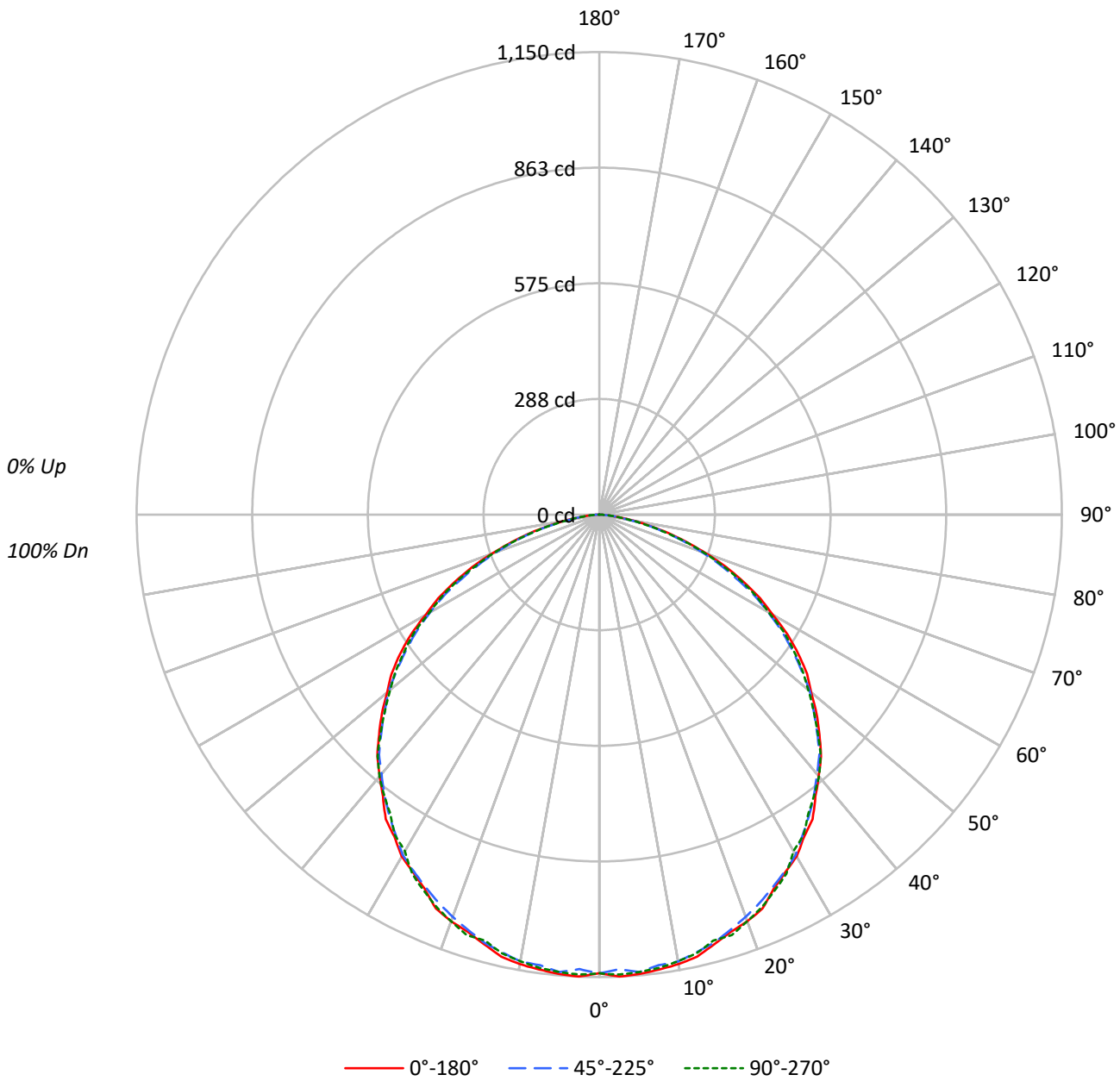
Lumens per Lamp: N/A  
Luminaire Lumens: 3165.6 lumens  
Efficiency: N/A  
Efficacy: 100.8 lumens/watt  
Spacing Criteria (0/90/45): 1.27 / 1.27 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

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°	3069	3069	3069
5°	3097	3084	3084
10°	3101	3083	3081
15°	3080	3070	3055
20°	3081	3048	3083
25°	3048	3033	3064
30°	3049	3036	3002
35°	3038	2992	2978
40°	2981	2957	2985
45°	2946	2916	2925
50°	2881	2861	2840
55°	2834	2743	2768
60°	2677	2605	2618
65°	2519	2399	2472
70°	2230	2124	2192
75°	1838	1755	1749
80°	1313	1218	1218
85°	639	621	639

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2946 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	108.3	3.4
10°-20°	310.7	9.8
20°-30°	472.2	14.9
30°-40°	570.8	18.0
40°-50°	591.5	18.7
50°-60°	525.8	16.6
60°-70°	377.0	11.9
70°-80°	179.5	5.7
80°-90°	29.7	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°	891.2	28.2
0°-40°	1462.1	46.2
0°-60°	2579.4	81.5
0°-90°	3165.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3165.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1140	1140	1140	1140	1140	
5°	1147	1141	1142	1136	1142	109
15°	1106	1102	1102	1096	1097	313
25°	1026	1024	1022	1021	1032	475
35°	925	910	911	911	906	575
45°	774	766	766	763	769	597
55°	604	586	585	588	590	537
65°	396	374	377	382	388	390
75°	177	160	169	170	168	188
85°	21	18	20	20	21	31
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1140.5	1140.5	1140.5	1140.5	1140.5
2.5°	1149.6	1143.5	1131.3	1139.2	1144.7
5°	1146.6	1141.1	1141.7	1136.2	1141.7
7.5°	1141.1	1135.6	1130.1	1128.3	1136.8
10°	1135.0	1124.6	1128.3	1124.0	1127.7
12.5°	1125.8	1117.3	1114.9	1109.4	1117.3
15°	1105.7	1102.1	1102.1	1096.0	1096.6
17.5°	1088.0	1080.7	1083.2	1080.1	1096.0
20°	1075.9	1064.3	1064.3	1062.4	1076.5
22.5°	1060.6	1047.2	1044.2	1045.4	1056.3
25°	1026.5	1024.0	1021.6	1021.0	1032.0
27.5°	1002.1	995.4	999.7	997.8	1007.0
30°	981.4	969.8	977.1	970.4	966.1
32.5°	948.5	944.2	942.4	943.0	944.8
35°	924.7	910.1	910.7	911.3	906.4
37.5°	883.2	885.1	877.1	877.1	878.4
40°	848.5	846.1	841.8	841.8	849.7
42.5°	816.2	805.2	810.1	802.8	815.0
45°	774.1	765.6	766.2	763.2	768.6
47.5°	732.7	725.4	722.9	725.4	722.9
50°	688.2	683.3	683.3	680.9	678.4
52.5°	651.0	633.9	632.7	636.4	637.0
55°	604.1	585.8	584.6	587.6	590.0
57.5°	554.7	533.4	537.6	542.5	545.5
60°	497.4	482.2	484.0	491.9	486.4
62.5°	451.1	430.3	433.4	440.1	440.1
65°	395.6	374.3	376.7	381.6	388.3
67.5°	342.0	319.4	323.1	328.5	330.4
70°	283.4	259.7	270.0	275.5	278.6
72.5°	227.4	209.1	218.2	221.3	223.7
75°	176.8	159.7	168.8	170.1	168.2
77.5°	125.6	113.4	120.7	123.1	121.3
80°	84.7	72.5	78.6	80.5	78.6
82.5°	46.3	42.7	45.1	45.7	44.5
85°	20.7	18.3	20.1	20.1	20.7
87.5°	6.1	5.5	5.5	6.1	5.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)