

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: P561849

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-80-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561849  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/20/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-12-4-LD4-2STD-50-UNV-80-88-EDD  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

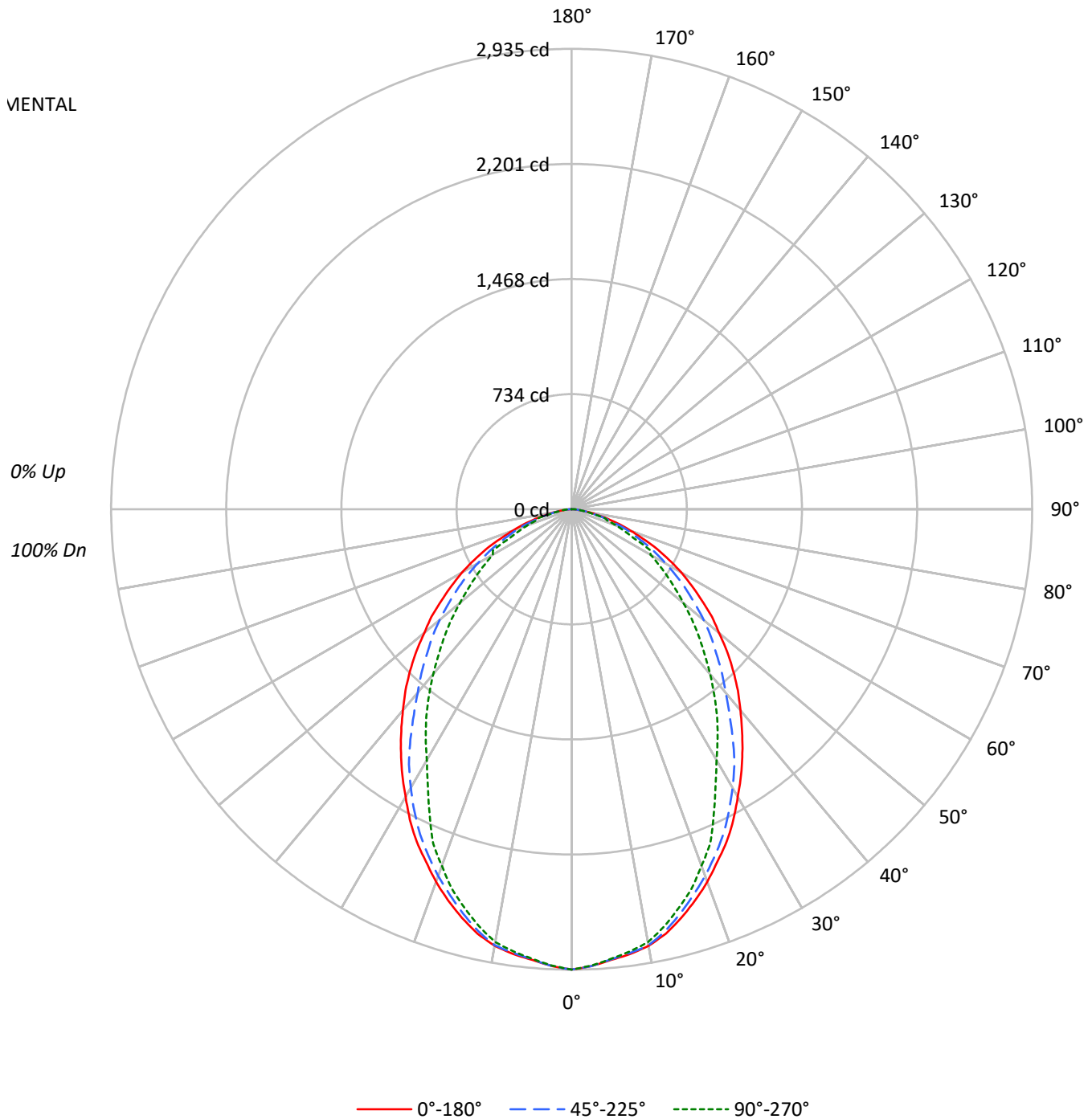
Lumens per Lamp: N/A  
Luminaire Lumens: 5761.0 lumens  
Efficiency: N/A  
Efficacy: 86.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	7897	7897	7897
5°	7790	7780	7771
10°	7722	7713	7657
15°	7514	7438	7334
20°	7238	7121	6927
25°	6940	6789	6366
30°	6578	6367	5735
35°	6230	5885	5305
40°	5875	5363	4827
45°	5539	4958	4364
50°	5127	4602	3892
55°	4743	4170	3486
60°	4345	3725	3122
65°	3824	3262	2765
70°	3150	2856	2349
75°	2505	2187	2293
80°	1683	1578	1472
85°	1047	1257	1467

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5539 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	273.2	4.7
10°-20°	749.7	13.0
20°-30°	1037.9	18.0
30°-40°	1106.7	19.2
40°-50°	1009.6	17.5
50°-60°	791.0	13.7
60°-70°	515.5	8.9
70°-80°	228.4	4.0
80°-90°	49.0	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°	2060.8	35.8
0°-40°	3167.5	55.0
0°-60°	4968.1	86.2
0°-90°	5761.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5761.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2935	2935	2935	2935	2935	
5°	2884	2880	2880	2877	2877	274
15°	2697	2697	2670	2643	2633	758
25°	2338	2324	2287	2205	2144	1073
35°	1896	1883	1791	1656	1615	1186
45°	1455	1425	1303	1194	1147	1121
55°	1011	980	889	784	743	907
65°	600	567	512	522	434	592
75°	241	224	210	200	220	258
85°	34	37	41	44	48	47
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2934.6	2934.6	2934.6	2934.6	2934.6
2.5°	2914.2	2914.2	2914.2	2910.8	2910.8
5°	2883.7	2880.3	2880.3	2876.9	2876.9
7.5°	2859.9	2856.5	2853.2	2849.8	2843.0
10°	2826.0	2826.0	2822.6	2805.7	2802.3
12.5°	2771.7	2768.3	2754.8	2731.0	2724.2
15°	2697.1	2697.1	2670.0	2642.8	2632.6
17.5°	2615.7	2612.3	2578.4	2551.2	2537.6
20°	2527.5	2520.7	2486.8	2442.7	2418.9
22.5°	2429.1	2429.1	2388.4	2330.7	2307.0
25°	2337.5	2323.9	2286.6	2205.2	2144.1
27.5°	2232.3	2212.0	2171.2	2055.9	1984.7
30°	2117.0	2106.8	2049.1	1899.8	1845.6
32.5°	2008.4	1991.4	1930.4	1774.3	1730.2
35°	1896.4	1882.9	1791.3	1655.6	1614.9
37.5°	1784.5	1767.5	1652.2	1543.6	1492.7
40°	1672.5	1652.2	1526.7	1428.3	1374.0
42.5°	1567.4	1540.2	1418.1	1312.9	1251.9
45°	1455.4	1424.9	1302.7	1194.2	1146.7
47.5°	1343.5	1316.3	1204.4	1092.4	1038.1
50°	1224.7	1201.0	1099.2	987.2	929.6
52.5°	1126.3	1089.0	990.6	878.7	831.2
55°	1011.0	980.5	888.9	783.7	743.0
57.5°	905.8	875.3	790.5	692.1	658.2
60°	807.4	763.3	692.1	607.3	580.1
62.5°	698.9	664.9	603.9	532.6	566.6
65°	600.5	566.6	512.3	522.5	434.2
67.5°	491.9	475.0	427.5	380.0	366.4
70°	400.3	380.0	363.0	312.1	298.5
72.5°	318.9	298.5	274.8	247.7	237.5
75°	240.9	223.9	210.3	200.2	220.5
77.5°	166.2	159.5	149.3	139.1	135.7
80°	108.6	105.2	101.8	98.4	95.0
82.5°	64.5	64.5	64.5	64.5	64.5
85°	33.9	37.3	40.7	44.1	47.5
87.5°	20.4	20.4	23.7	27.1	30.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)