

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: P562098

Luminaire Tested: FSR-24-4-LD4-1HI-50-UNV-80-85-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562098  
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-24-4-LD4-1HI-50-UNV-80-85-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

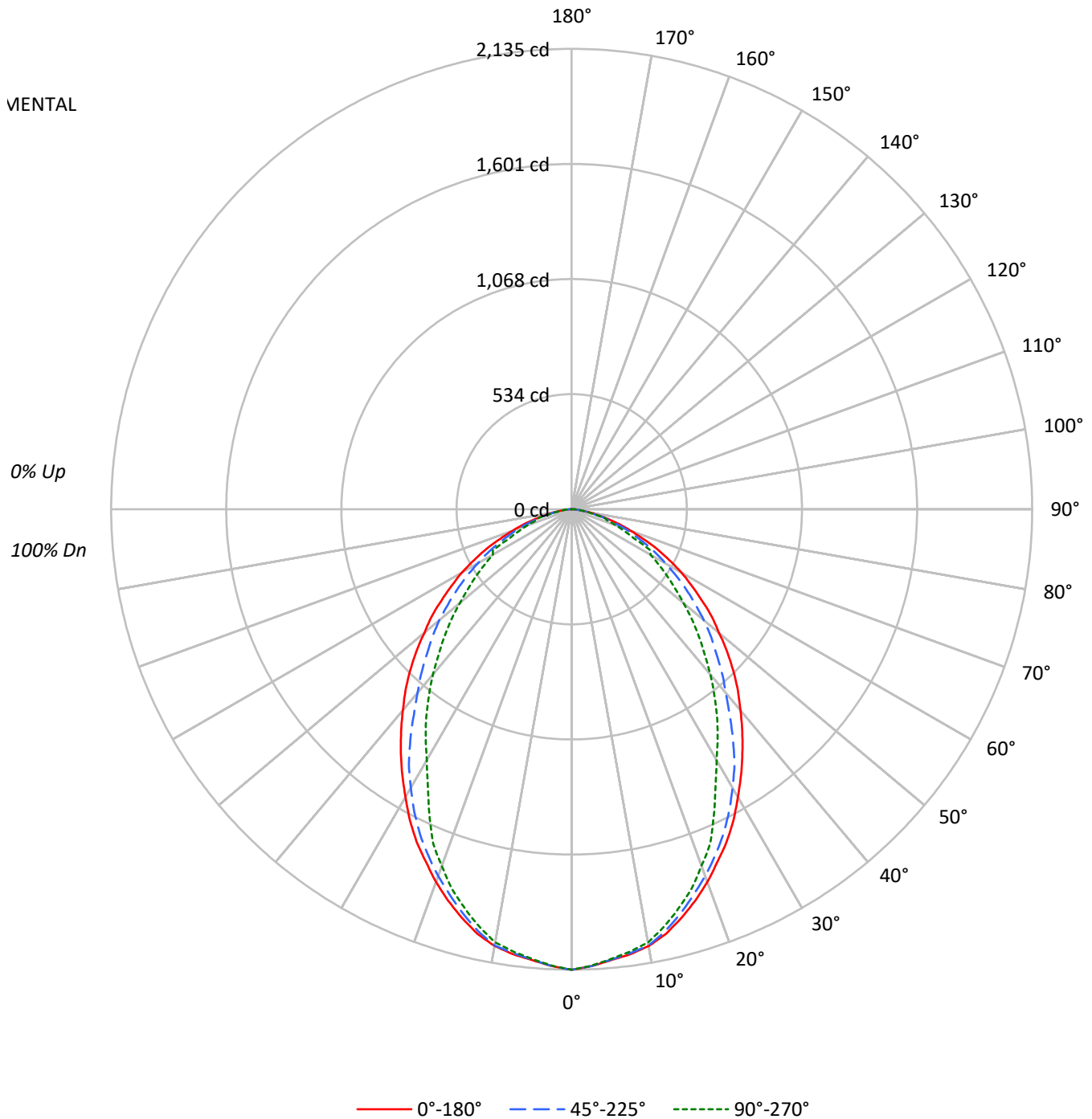
Lumens per Lamp: N/A  
Luminaire Lumens: 4192.0 lumens  
Efficiency: N/A  
Efficacy: 97.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	2873	2873	2873
5°	2834	2831	2827
10°	2810	2806	2786
15°	2734	2706	2668
20°	2633	2591	2520
25°	2525	2470	2316
30°	2393	2316	2086
35°	2267	2141	1930
40°	2138	1951	1756
45°	2015	1804	1588
50°	1865	1674	1416
55°	1726	1517	1268
60°	1581	1355	1136
65°	1391	1187	1006
70°	1146	1039	854
75°	911	796	834
80°	612	574	535
85°	381	457	534

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2015 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	198.8	4.7
10°-20°	545.5	13.0
20°-30°	755.2	18.0
30°-40°	805.3	19.2
40°-50°	734.7	17.5
50°-60°	575.5	13.7
60°-70°	375.1	8.9
70°-80°	166.2	4.0
80°-90°	35.7	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°	1499.5	35.8
0°-40°	2304.8	55.0
0°-60°	3615.0	86.2
0°-90°	4192.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4192.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2135	2135	2135	2135	2135	
5°	2098	2096	2096	2093	2093	199
15°	1962	1962	1943	1923	1916	552
25°	1701	1691	1664	1605	1560	781
35°	1380	1370	1303	1205	1175	863
45°	1059	1037	948	869	834	816
55°	736	713	647	570	541	660
65°	437	412	373	380	316	431
75°	175	163	153	146	160	188
85°	25	27	30	32	35	34
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2135.3	2135.3	2135.3	2135.3	2135.3
2.5°	2120.5	2120.5	2120.5	2118.1	2118.1
5°	2098.3	2095.9	2095.9	2093.4	2093.4
7.5°	2081.0	2078.6	2076.1	2073.6	2068.7
10°	2056.4	2056.4	2053.9	2041.5	2039.1
12.5°	2016.9	2014.4	2004.5	1987.2	1982.3
15°	1962.5	1962.5	1942.8	1923.0	1915.6
17.5°	1903.3	1900.8	1876.1	1856.4	1846.5
20°	1839.1	1834.2	1809.5	1777.4	1760.1
22.5°	1767.5	1767.5	1737.9	1695.9	1678.7
25°	1700.9	1691.0	1663.8	1604.6	1560.2
27.5°	1624.3	1609.5	1579.9	1496.0	1444.1
30°	1540.4	1533.0	1491.0	1382.4	1342.9
32.5°	1461.4	1449.1	1404.6	1291.1	1259.0
35°	1380.0	1370.1	1303.4	1204.7	1175.1
37.5°	1298.5	1286.1	1202.2	1123.2	1086.2
40°	1217.0	1202.2	1110.9	1039.3	999.8
42.5°	1140.5	1120.7	1031.9	955.4	910.9
45°	1059.0	1036.8	947.9	869.0	834.4
47.5°	977.6	957.8	876.4	794.9	755.4
50°	891.2	873.9	799.8	718.4	676.4
52.5°	819.6	792.4	720.8	639.4	604.8
55°	735.6	713.4	646.8	570.2	540.6
57.5°	659.1	636.9	575.2	503.6	478.9
60°	587.5	555.4	503.6	441.9	422.1
62.5°	508.5	483.8	439.4	387.6	412.3
65°	436.9	412.3	372.8	380.2	316.0
67.5°	357.9	345.6	311.0	276.5	266.6
70°	291.3	276.5	264.1	227.1	217.2
72.5°	232.0	217.2	200.0	180.2	172.8
75°	175.3	162.9	153.1	145.6	160.5
77.5°	121.0	116.0	108.6	101.2	98.7
80°	79.0	76.5	74.1	71.6	69.1
82.5°	46.9	46.9	46.9	46.9	46.9
85°	24.7	27.2	29.6	32.1	34.6
87.5°	14.8	14.8	17.3	19.7	22.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)