

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: P562039

Luminaire Tested: FSR-24-4-LD4-1HI-40-UNV-80-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562039  
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-40-UNV-80-87-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

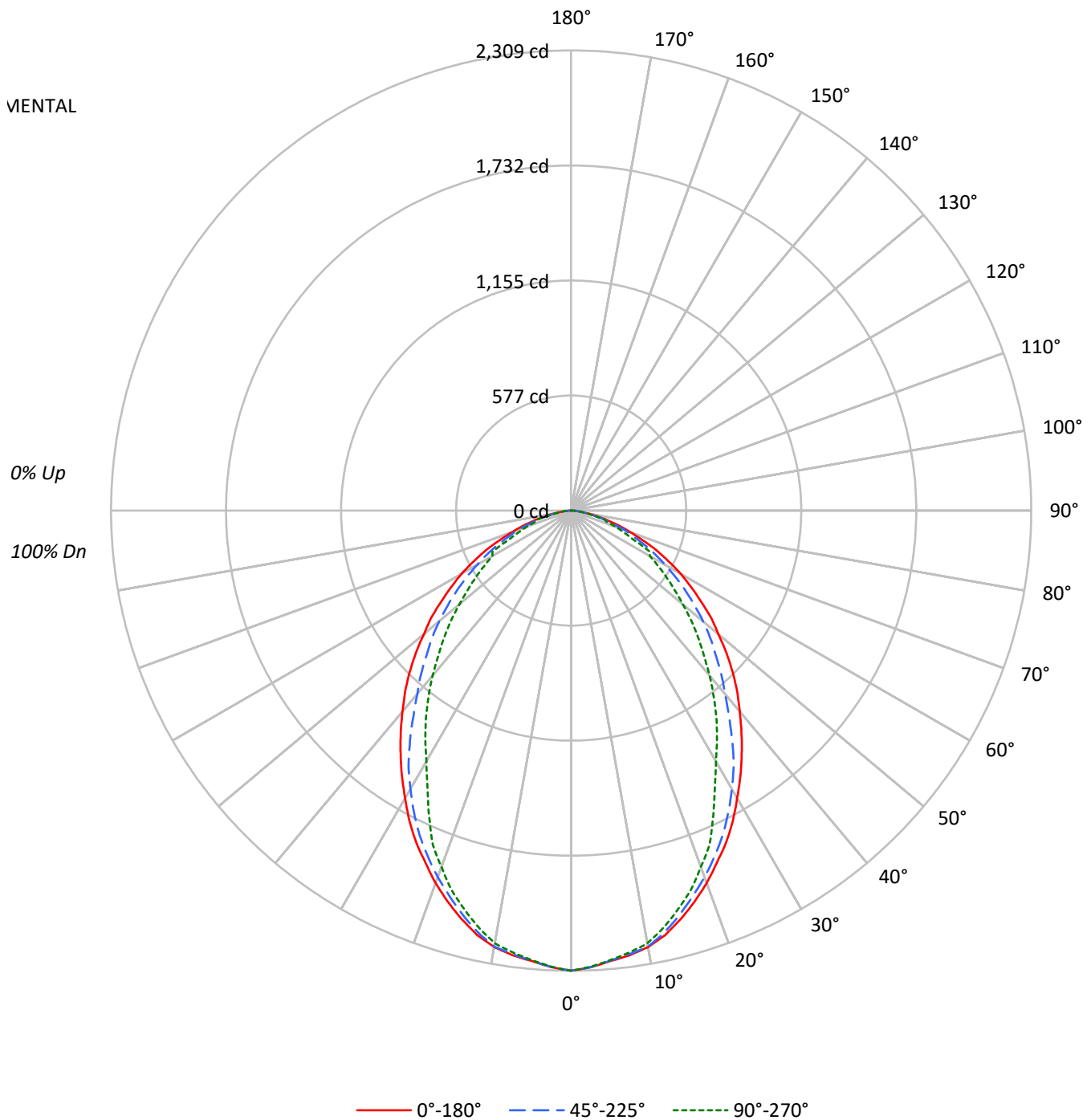
Lumens per Lamp: N/A  
Luminaire Lumens: 4533.0 lumens  
Efficiency: N/A  
Efficacy: 104.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	3107	3107	3107
5°	3065	3061	3057
10°	3038	3034	3012
15°	2956	2926	2886
20°	2847	2802	2725
25°	2730	2671	2505
30°	2588	2505	2256
35°	2451	2315	2087
40°	2311	2110	1899
45°	2179	1951	1717
50°	2017	1810	1531
55°	1866	1641	1371
60°	1710	1466	1228
65°	1504	1283	1088
70°	1239	1124	924
75°	985	860	902
80°	662	621	579
85°	412	494	577

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2179 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	214.9	4.7
10°-20°	589.9	13.0
20°-30°	816.7	18.0
30°-40°	870.8	19.2
40°-50°	794.4	17.5
50°-60°	622.4	13.7
60°-70°	405.6	8.9
70°-80°	179.7	4.0
80°-90°	38.6	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°	1621.5	35.8
0°-40°	2492.3	55.0
0°-60°	3909.1	86.2
0°-90°	4533.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4533.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2309	2309	2309	2309	2309	
5°	2269	2266	2266	2264	2264	215
15°	2122	2122	2101	2080	2072	597
25°	1839	1829	1799	1735	1687	844
35°	1492	1482	1410	1303	1271	933
45°	1145	1121	1025	940	902	882
55°	796	772	699	617	585	713
65°	472	446	403	411	342	466
75°	190	176	166	158	174	203
85°	27	29	32	35	37	37
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2309.0	2309.0	2309.0	2309.0	2309.0
2.5°	2293.0	2293.0	2293.0	2290.4	2290.4
5°	2269.0	2266.3	2266.3	2263.7	2263.7
7.5°	2250.3	2247.7	2245.0	2242.3	2237.0
10°	2223.6	2223.6	2221.0	2207.6	2204.9
12.5°	2180.9	2178.2	2167.6	2148.9	2143.5
15°	2122.2	2122.2	2100.8	2079.5	2071.5
17.5°	2058.1	2055.5	2028.8	2007.4	1996.7
20°	1988.7	1983.4	1956.7	1922.0	1903.3
22.5°	1911.3	1911.3	1879.3	1833.9	1815.2
25°	1839.2	1828.6	1799.2	1735.1	1687.1
27.5°	1756.5	1740.5	1708.4	1617.7	1561.6
30°	1665.7	1657.7	1612.3	1494.9	1452.2
32.5°	1580.3	1567.0	1518.9	1396.1	1361.4
35°	1492.2	1481.5	1409.5	1302.7	1270.6
37.5°	1404.1	1390.8	1300.0	1214.6	1174.5
40°	1316.0	1300.0	1201.2	1123.8	1081.1
42.5°	1233.3	1211.9	1115.8	1033.1	985.0
45°	1145.2	1121.2	1025.1	939.6	902.3
47.5°	1057.1	1035.7	947.6	859.6	816.8
50°	963.7	945.0	864.9	776.8	731.4
52.5°	886.2	856.9	779.5	691.4	654.0
55°	795.5	771.5	699.4	616.6	584.6
57.5°	712.7	688.7	622.0	544.6	517.9
60°	635.3	600.6	544.6	477.8	456.5
62.5°	549.9	523.2	475.2	419.1	445.8
65°	472.5	445.8	403.1	411.1	341.7
67.5°	387.1	373.7	336.3	299.0	288.3
70°	315.0	299.0	285.6	245.6	234.9
72.5°	250.9	234.9	216.2	194.9	186.9
75°	189.5	176.2	165.5	157.5	173.5
77.5°	130.8	125.5	117.5	109.4	106.8
80°	85.4	82.8	80.1	77.4	74.7
82.5°	50.7	50.7	50.7	50.7	50.7
85°	26.7	29.4	32.0	34.7	37.4
87.5°	16.0	16.0	18.7	21.4	24.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)