

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: P562102

Luminaire Tested: FSR-24-4-LD4-1HI-50-UNV-80-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562102  
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-80-87-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

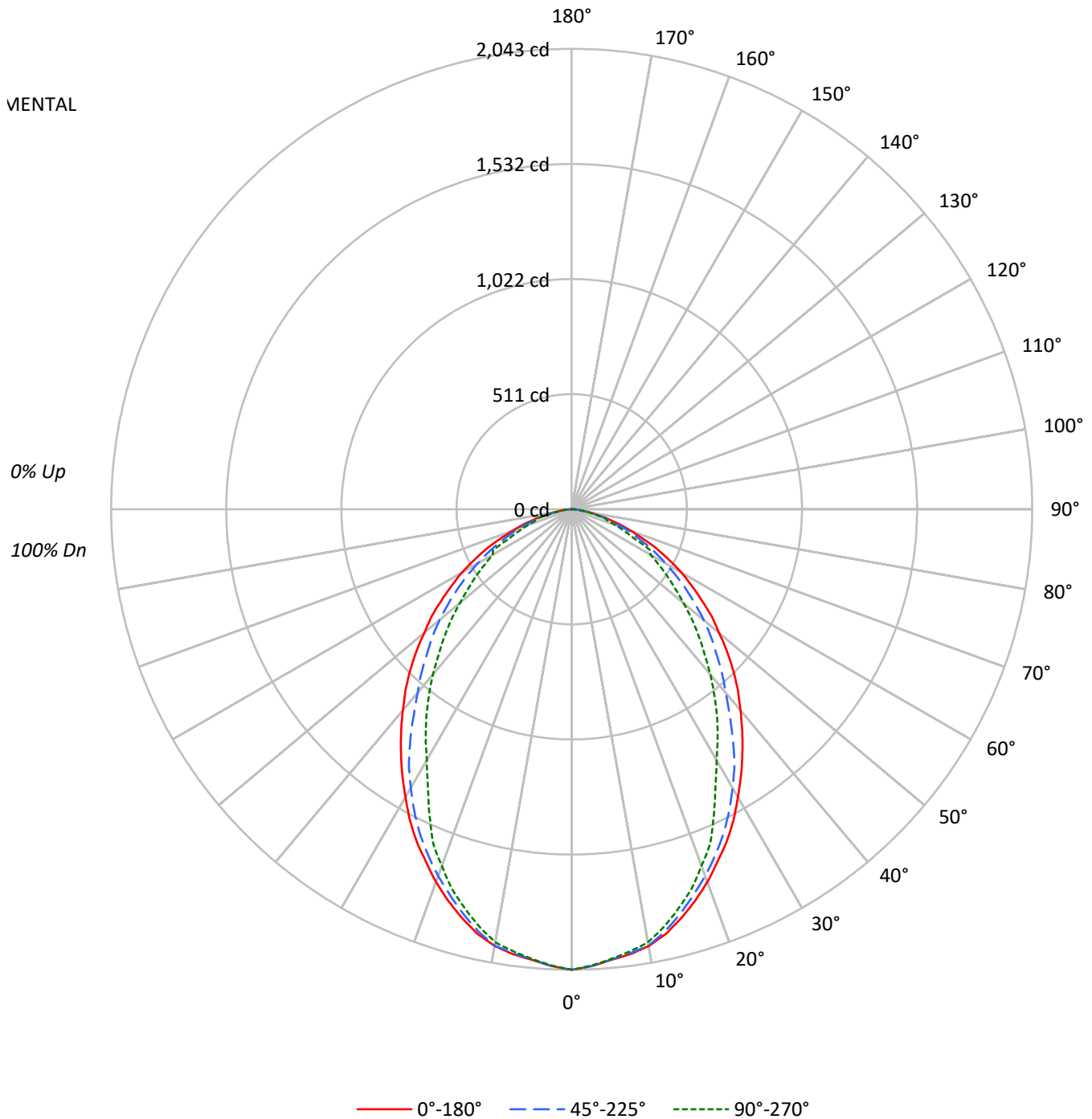
Lumens per Lamp: N/A  
Luminaire Lumens: 4011.0 lumens  
Efficiency: N/A  
Efficacy: 92.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	2749	2749	2749
5°	2712	2709	2705
10°	2688	2685	2666
15°	2616	2589	2553
20°	2520	2479	2411
25°	2416	2363	2216
30°	2290	2217	1996
35°	2169	2048	1847
40°	2045	1867	1680
45°	1928	1726	1519
50°	1785	1602	1355
55°	1651	1452	1213
60°	1513	1297	1087
65°	1331	1136	962
70°	1096	994	818
75°	872	761	798
80°	586	549	512
85°	364	437	511

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1928 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	190.2	4.7
10°-20°	522.0	13.0
20°-30°	722.6	18.0
30°-40°	770.5	19.2
40°-50°	702.9	17.5
50°-60°	550.7	13.7
60°-70°	358.9	8.9
70°-80°	159.0	4.0
80°-90°	34.1	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°	1434.8	35.8
0°-40°	2205.3	55.0
0°-60°	3458.9	86.2
0°-90°	4011.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4011.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2043	2043	2043	2043	2043	
5°	2008	2005	2005	2003	2003	191
15°	1878	1878	1859	1840	1833	528
25°	1627	1618	1592	1535	1493	747
35°	1320	1311	1247	1153	1124	825
45°	1013	992	907	831	798	781
55°	704	683	619	546	517	631
65°	418	394	357	364	302	412
75°	168	156	146	139	154	180
85°	24	26	28	31	33	33
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2043.1	2043.1	2043.1	2043.1	2043.1
2.5°	2029.0	2029.0	2029.0	2026.6	2026.6
5°	2007.7	2005.4	2005.4	2003.0	2003.0
7.5°	1991.2	1988.8	1986.5	1984.1	1979.4
10°	1967.6	1967.6	1965.2	1953.4	1951.0
12.5°	1929.8	1927.4	1918.0	1901.4	1896.7
15°	1877.8	1877.8	1858.9	1840.0	1832.9
17.5°	1821.1	1818.8	1795.1	1776.2	1766.8
20°	1759.7	1755.0	1731.4	1700.7	1684.1
22.5°	1691.2	1691.2	1662.9	1622.7	1606.2
25°	1627.4	1618.0	1592.0	1535.3	1492.8
27.5°	1554.2	1540.0	1511.7	1431.4	1381.8
30°	1473.9	1466.8	1426.7	1322.7	1284.9
32.5°	1398.3	1386.5	1344.0	1235.3	1204.6
35°	1320.4	1310.9	1247.1	1152.7	1124.3
37.5°	1242.4	1230.6	1150.3	1074.7	1039.3
40°	1164.5	1150.3	1062.9	994.4	956.6
42.5°	1091.3	1072.4	987.3	914.1	871.6
45°	1013.3	992.0	907.0	831.4	798.4
47.5°	935.4	916.5	838.5	760.6	722.8
50°	852.7	836.2	765.3	687.3	647.2
52.5°	784.2	758.2	689.7	611.8	578.7
55°	703.9	682.6	618.9	545.6	517.3
57.5°	630.7	609.4	550.4	481.9	458.2
60°	562.2	531.5	481.9	422.8	403.9
62.5°	486.6	463.0	420.4	370.8	394.5
65°	418.1	394.5	356.7	363.8	302.3
67.5°	342.5	330.7	297.6	264.5	255.1
70°	278.7	264.5	252.7	217.3	207.9
72.5°	222.0	207.9	191.3	172.4	165.3
75°	167.7	155.9	146.4	139.4	153.5
77.5°	115.7	111.0	103.9	96.8	94.5
80°	75.6	73.2	70.9	68.5	66.1
82.5°	44.9	44.9	44.9	44.9	44.9
85°	23.6	26.0	28.3	30.7	33.1
87.5°	14.2	14.2	16.5	18.9	21.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)