

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: P562058

Luminaire Tested: FSR-24-4-LD4-1HI-40-UNV-81-94-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562058  
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-81-94-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

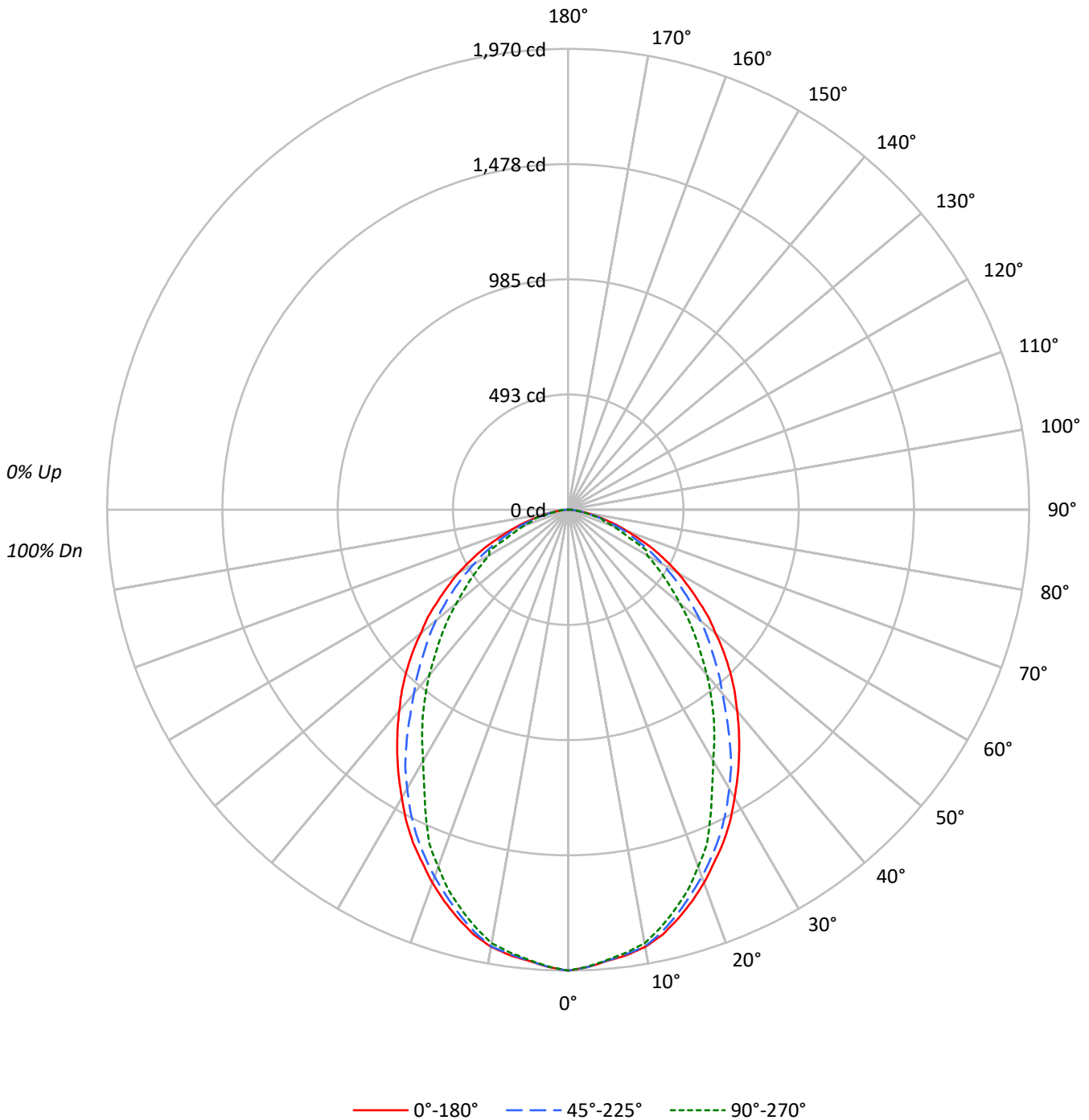
Lumens per Lamp: N/A  
Luminaire Lumens: 3868.0 lumens  
Efficiency: N/A  
Efficacy: 89.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	2651	2651	2651
5°	2615	2612	2609
10°	2592	2589	2571
15°	2522	2497	2462
20°	2430	2391	2325
25°	2330	2279	2137
30°	2208	2137	1925
35°	2091	1975	1781
40°	1972	1800	1620
45°	1859	1664	1465
50°	1721	1545	1306
55°	1592	1400	1170
60°	1459	1250	1048
65°	1284	1095	928
70°	1057	959	788
75°	841	734	770
80°	565	529	494
85°	352	421	492

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1859 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	183.4	4.7
10°-20°	503.3	13.0
20°-30°	696.9	18.0
30°-40°	743.1	19.2
40°-50°	677.9	17.5
50°-60°	531.1	13.7
60°-70°	346.1	8.9
70°-80°	153.3	4.0
80°-90°	32.9	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°	1383.6	35.8
0°-40°	2126.7	55.0
0°-60°	3335.6	86.2
0°-90°	3868.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3868.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1970	1970	1970	1970	1970	
5°	1936	1934	1934	1932	1932	184
15°	1811	1811	1793	1774	1768	509
25°	1569	1560	1535	1481	1440	721
35°	1273	1264	1203	1112	1084	796
45°	977	957	875	802	770	753
55°	679	658	597	526	499	609
65°	403	380	344	351	292	397
75°	162	150	141	134	148	173
85°	23	25	27	30	32	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1970.3	1970.3	1970.3	1970.3	1970.3
2.5°	1956.6	1956.6	1956.6	1954.4	1954.4
5°	1936.1	1933.9	1933.9	1931.6	1931.6
7.5°	1920.2	1917.9	1915.6	1913.4	1908.8
10°	1897.4	1897.4	1895.1	1883.8	1881.5
12.5°	1861.0	1858.7	1849.6	1833.6	1829.1
15°	1810.9	1810.9	1792.6	1774.4	1767.6
17.5°	1756.2	1753.9	1731.1	1712.9	1703.8
20°	1697.0	1692.4	1669.6	1640.0	1624.1
22.5°	1630.9	1630.9	1603.6	1564.9	1548.9
25°	1569.4	1560.3	1535.2	1480.6	1439.6
27.5°	1498.8	1485.1	1457.8	1380.4	1332.5
30°	1421.4	1414.5	1375.8	1275.6	1239.1
32.5°	1348.5	1337.1	1296.1	1191.3	1161.7
35°	1273.3	1264.2	1202.7	1111.6	1084.2
37.5°	1198.1	1186.7	1109.3	1036.4	1002.2
40°	1123.0	1109.3	1025.0	959.0	922.5
42.5°	1052.3	1034.1	952.1	881.5	840.5
45°	977.2	956.7	874.7	801.8	769.9
47.5°	902.0	883.8	808.6	733.5	697.0
50°	822.3	806.3	738.0	662.8	624.1
52.5°	756.2	731.2	665.1	590.0	558.1
55°	678.8	658.3	596.8	526.2	498.8
57.5°	608.2	587.7	530.7	464.7	441.9
60°	542.1	512.5	464.7	407.7	389.5
62.5°	469.2	446.5	405.5	357.6	380.4
65°	403.2	380.4	343.9	350.8	291.6
67.5°	330.3	318.9	287.0	255.1	246.0
70°	268.8	255.1	243.7	209.6	200.4
72.5°	214.1	200.4	184.5	166.3	159.4
75°	161.7	150.3	141.2	134.4	148.1
77.5°	111.6	107.1	100.2	93.4	91.1
80°	72.9	70.6	68.3	66.1	63.8
82.5°	43.3	43.3	43.3	43.3	43.3
85°	22.8	25.1	27.3	29.6	31.9
87.5°	13.7	13.7	15.9	18.2	20.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)