

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: P562062

Luminaire Tested: FSR-24-4-LD4-1HI-40-UNV-81-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562062  
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-81-97-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

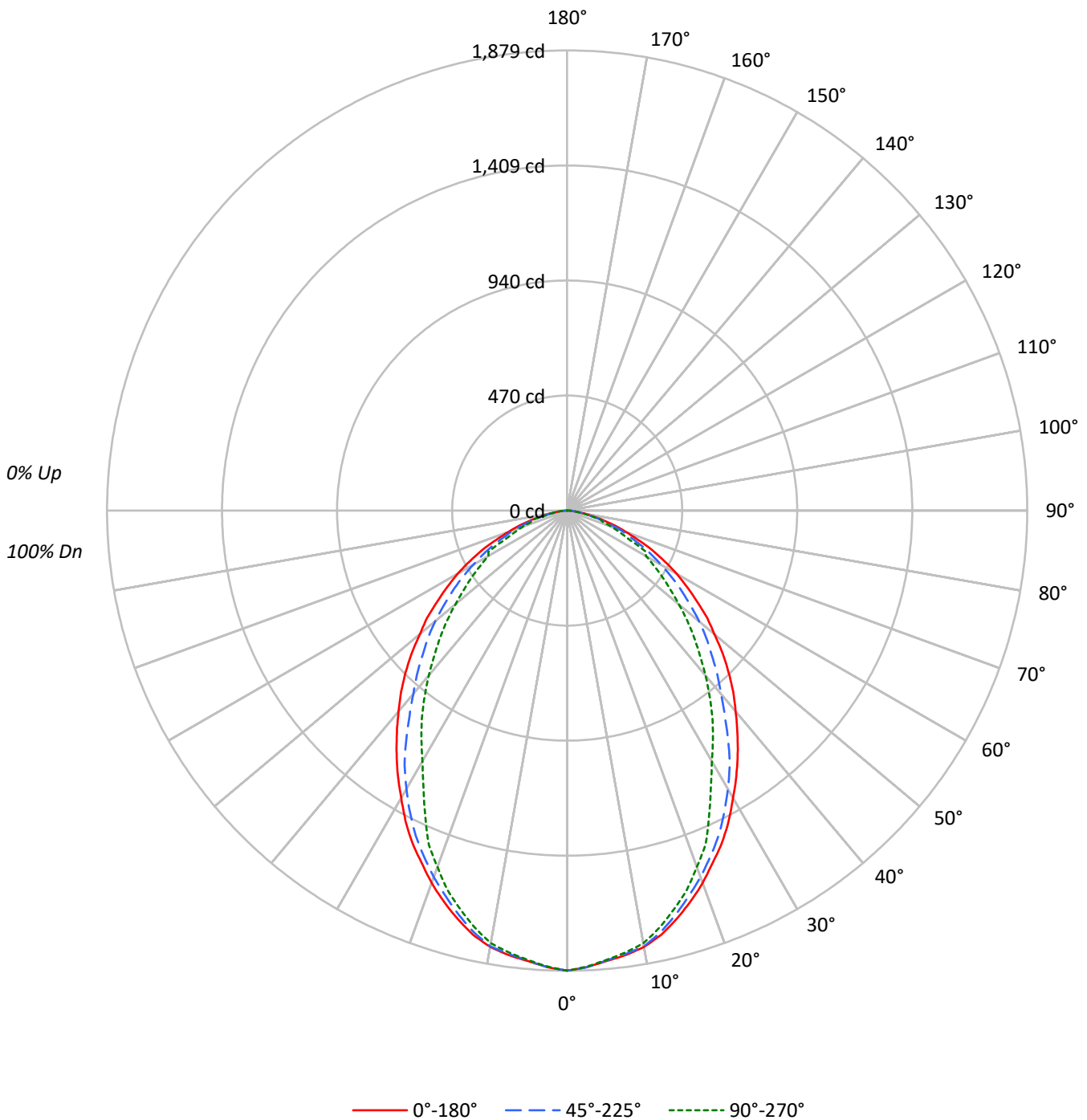
Lumens per Lamp: N/A  
Luminaire Lumens: 3688.0 lumens  
Efficiency: N/A  
Efficacy: 85.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	2528	2528	2528
5°	2493	2490	2487
10°	2472	2469	2451
15°	2405	2381	2348
20°	2317	2279	2217
25°	2222	2173	2038
30°	2105	2038	1836
35°	1994	1883	1698
40°	1881	1717	1545
45°	1773	1587	1397
50°	1641	1473	1246
55°	1518	1335	1116
60°	1391	1192	999
65°	1224	1044	885
70°	1008	914	752
75°	802	700	734
80°	539	505	471
85°	335	403	469

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1773 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	174.9	4.7
10°-20°	479.9	13.0
20°-30°	664.4	18.0
30°-40°	708.5	19.2
40°-50°	646.3	17.5
50°-60°	506.4	13.7
60°-70°	330.0	8.9
70°-80°	146.2	4.0
80°-90°	31.4	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°	1319.2	35.8
0°-40°	2027.7	55.0
0°-60°	3180.4	86.2
0°-90°	3688.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3688.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1879	1879	1879	1879	1879	
5°	1846	1844	1844	1842	1842	175
15°	1727	1727	1709	1692	1685	485
25°	1496	1488	1464	1412	1373	687
35°	1214	1205	1147	1060	1034	759
45°	932	912	834	764	734	718
55°	647	628	569	502	476	580
65°	384	363	328	334	278	379
75°	154	143	135	128	141	165
85°	22	24	26	28	30	30
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1878.6	1878.6	1878.6	1878.6	1878.6
2.5°	1865.6	1865.6	1865.6	1863.4	1863.4
5°	1846.0	1843.9	1843.9	1841.7	1841.7
7.5°	1830.8	1828.7	1826.5	1824.3	1820.0
10°	1809.1	1809.1	1806.9	1796.1	1793.9
12.5°	1774.4	1772.2	1763.5	1748.3	1744.0
15°	1726.6	1726.6	1709.2	1691.8	1685.3
17.5°	1674.5	1672.3	1650.6	1633.2	1624.5
20°	1618.0	1613.7	1591.9	1563.7	1548.5
22.5°	1555.0	1555.0	1529.0	1492.0	1476.8
25°	1496.4	1487.7	1463.8	1411.7	1372.6
27.5°	1429.1	1416.0	1390.0	1316.1	1270.5
30°	1355.2	1348.7	1311.8	1216.2	1181.5
32.5°	1285.7	1274.9	1235.8	1135.9	1107.6
35°	1214.0	1205.4	1146.7	1059.8	1033.8
37.5°	1142.4	1131.5	1057.7	988.2	955.6
40°	1070.7	1057.7	977.3	914.3	879.6
42.5°	1003.4	986.0	907.8	840.5	801.4
45°	931.7	912.2	834.0	764.5	734.1
47.5°	860.0	842.7	771.0	699.3	664.6
50°	784.0	768.8	703.7	632.0	595.1
52.5°	721.0	697.2	634.2	562.5	532.1
55°	647.2	627.7	569.0	501.7	475.6
57.5°	579.9	560.3	506.0	443.0	421.3
60°	516.9	488.7	443.0	388.8	371.4
62.5°	447.4	425.7	386.6	341.0	362.7
65°	384.4	362.7	327.9	334.5	278.0
67.5°	314.9	304.1	273.6	243.2	234.6
70°	256.3	243.2	232.4	199.8	191.1
72.5°	204.2	191.1	175.9	158.5	152.0
75°	154.2	143.3	134.7	128.1	141.2
77.5°	106.4	102.1	95.6	89.0	86.9
80°	69.5	67.3	65.2	63.0	60.8
82.5°	41.3	41.3	41.3	41.3	41.3
85°	21.7	23.9	26.1	28.2	30.4
87.5°	13.0	13.0	15.2	17.4	19.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)