

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: P562044

Luminaire Tested: FSR-24-4-LD4-1HI-40-UNV-80-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562044  
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-80-96-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

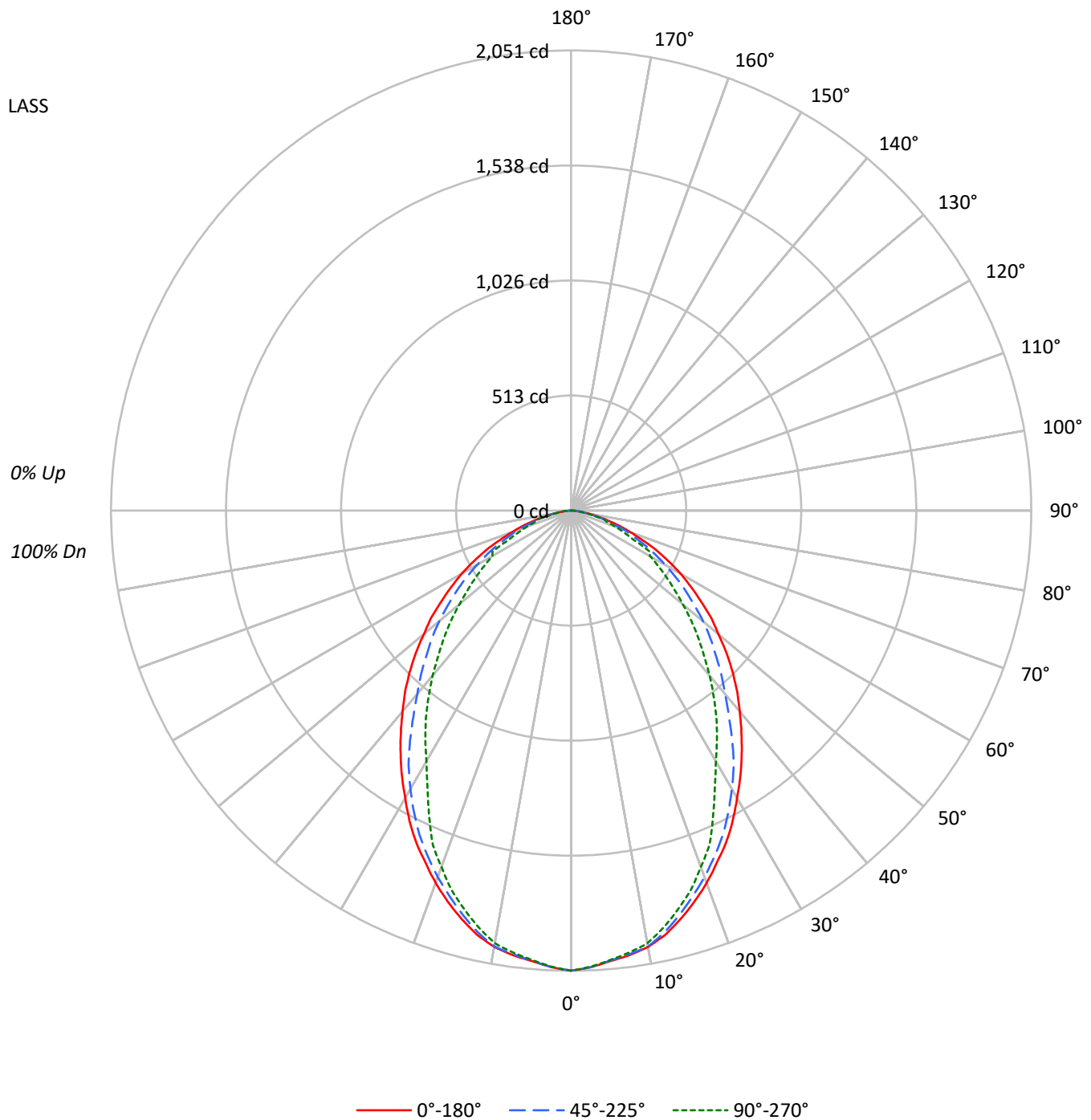
Lumens per Lamp: N/A  
Luminaire Lumens: 4026.0 lumens  
Efficiency: N/A  
Efficacy: 93.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	2759	2759	2759
5°	2722	2719	2715
10°	2698	2695	2676
15°	2625	2599	2563
20°	2529	2488	2420
25°	2425	2372	2224
30°	2298	2225	2004
35°	2177	2056	1854
40°	2053	1874	1687
45°	1935	1732	1525
50°	1792	1608	1360
55°	1657	1457	1218
60°	1519	1302	1091
65°	1336	1140	966
70°	1101	998	821
75°	875	764	801
80°	588	551	514
85°	366	440	513

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1935 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	190.9	4.7
10°-20°	523.9	13.0
20°-30°	725.3	18.0
30°-40°	773.4	19.2
40°-50°	705.6	17.5
50°-60°	552.8	13.7
60°-70°	360.3	8.9
70°-80°	159.6	4.0
80°-90°	34.3	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°	1440.1	35.8
0°-40°	2213.5	55.0
0°-60°	3471.9	86.2
0°-90°	4026.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4026.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2051	2051	2051	2051	2051	
5°	2015	2013	2013	2010	2010	191
15°	1885	1885	1866	1847	1840	530
25°	1634	1624	1598	1541	1498	750
35°	1325	1316	1252	1157	1128	829
45°	1017	996	910	834	801	783
55°	706	685	621	548	519	634
65°	420	396	358	365	304	414
75°	168	156	147	140	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°	2050.8	2050.8	2050.8	2050.8	2050.8
2.5°	2036.6	2036.6	2036.6	2034.2	2034.2
5°	2015.2	2012.9	2012.9	2010.5	2010.5
7.5°	1998.6	1996.3	1993.9	1991.5	1986.8
10°	1974.9	1974.9	1972.6	1960.7	1958.3
12.5°	1937.0	1934.6	1925.1	1908.5	1903.8
15°	1884.8	1884.8	1865.9	1846.9	1839.8
17.5°	1827.9	1825.6	1801.9	1782.9	1773.4
20°	1766.3	1761.5	1737.8	1707.0	1690.4
22.5°	1697.5	1697.5	1669.1	1628.8	1612.2
25°	1633.5	1624.0	1598.0	1541.1	1498.4
27.5°	1560.0	1545.8	1517.3	1436.7	1387.0
30°	1479.4	1472.3	1432.0	1327.7	1289.7
32.5°	1403.5	1391.7	1349.0	1240.0	1209.1
35°	1325.3	1315.8	1251.8	1157.0	1128.5
37.5°	1247.1	1235.2	1154.6	1078.7	1043.2
40°	1168.8	1154.6	1066.9	998.1	960.2
42.5°	1095.3	1076.4	991.0	917.5	874.8
45°	1017.1	995.8	910.4	834.5	801.3
47.5°	938.9	919.9	841.7	763.4	725.5
50°	855.9	839.3	768.2	689.9	649.6
52.5°	787.1	761.0	692.3	614.1	580.9
55°	706.5	685.2	621.2	547.7	519.2
57.5°	633.0	611.7	552.4	483.7	459.9
60°	564.3	533.4	483.7	424.4	405.4
62.5°	488.4	464.7	422.0	372.2	395.9
65°	419.6	395.9	358.0	365.1	303.5
67.5°	343.8	331.9	298.7	265.5	256.1
70°	279.8	265.5	253.7	218.1	208.6
72.5°	222.9	208.6	192.0	173.1	166.0
75°	168.3	156.5	147.0	139.9	154.1
77.5°	116.2	111.4	104.3	97.2	94.8
80°	75.9	73.5	71.1	68.8	66.4
82.5°	45.0	45.0	45.0	45.0	45.0
85°	23.7	26.1	28.5	30.8	33.2
87.5°	14.2	14.2	16.6	19.0	21.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)