

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: P560827

Luminaire Tested: FSR-12-4-LD4-1HI-40-UNV-80-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560827  
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-12-4-LD4-1HI-40-UNV-80-94-EDD  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

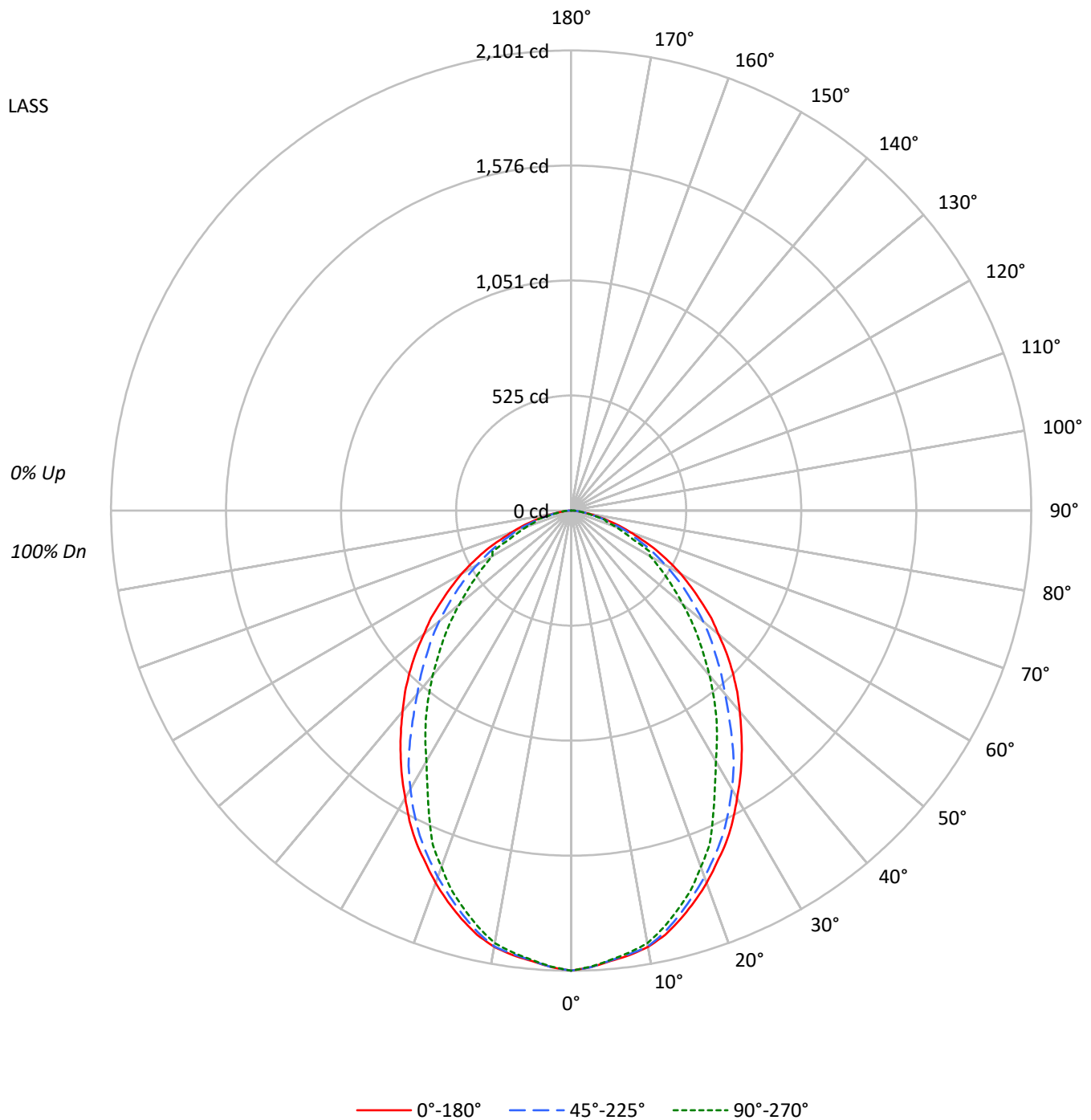
Lumens per Lamp: N/A  
Luminaire Lumens: 4124.0 lumens  
Efficiency: N/A  
Efficacy: 95.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	5653	5653	5653
5°	5576	5570	5563
10°	5528	5521	5481
15°	5379	5325	5250
20°	5181	5098	4959
25°	4968	4860	4557
30°	4709	4558	4105
35°	4460	4212	3798
40°	4206	3839	3455
45°	3965	3549	3124
50°	3670	3294	2786
55°	3395	2985	2495
60°	3111	2666	2235
65°	2737	2335	1980
70°	2255	2045	1681
75°	1792	1566	1642
80°	1204	1130	1054
85°	750	898	1050

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3965 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	195.5	4.7
10°-20°	536.7	13.0
20°-30°	743.0	18.0
30°-40°	792.2	19.2
40°-50°	722.7	17.5
50°-60°	566.2	13.7
60°-70°	369.0	8.9
70°-80°	163.5	4.0
80°-90°	35.1	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°	1475.2	35.8
0°-40°	2267.4	55.0
0°-60°	3556.4	86.2
0°-90°	4124.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4124.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2101	2101	2101	2101	2101	
5°	2064	2062	2062	2059	2059	196
15°	1931	1931	1911	1892	1885	543
25°	1673	1664	1637	1579	1535	768
35°	1358	1348	1282	1185	1156	849
45°	1042	1020	933	855	821	803
55°	724	702	636	561	532	649
65°	430	406	367	374	311	424
75°	172	160	151	143	158	185
85°	24	27	29	32	34	34
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2100.7	2100.7	2100.7	2100.7	2100.7
2.5°	2086.1	2086.1	2086.1	2083.7	2083.7
5°	2064.3	2061.9	2061.9	2059.4	2059.4
7.5°	2047.3	2044.9	2042.4	2040.0	2035.1
10°	2023.0	2023.0	2020.6	2008.4	2006.0
12.5°	1984.1	1981.7	1972.0	1955.0	1950.1
15°	1930.7	1930.7	1911.3	1891.9	1884.6
17.5°	1872.4	1870.0	1845.7	1826.3	1816.6
20°	1809.3	1804.4	1780.1	1748.6	1731.6
22.5°	1738.9	1738.9	1709.7	1668.4	1651.4
25°	1673.3	1663.6	1636.9	1578.6	1534.9
27.5°	1598.0	1583.4	1554.3	1471.7	1420.7
30°	1515.4	1508.1	1466.9	1360.0	1321.1
32.5°	1437.7	1425.6	1381.9	1270.1	1238.6
35°	1357.6	1347.9	1282.3	1185.1	1156.0
37.5°	1277.4	1265.3	1182.7	1105.0	1068.6
40°	1197.3	1182.7	1092.9	1022.4	983.6
42.5°	1122.0	1102.6	1015.1	939.9	896.1
45°	1041.9	1020.0	932.6	854.9	820.9
47.5°	961.7	942.3	862.1	782.0	743.1
50°	876.7	859.7	786.9	706.7	665.4
52.5°	806.3	779.6	709.1	629.0	595.0
55°	723.7	701.9	636.3	561.0	531.9
57.5°	648.4	626.6	565.9	495.4	471.1
60°	578.0	546.4	495.4	434.7	415.3
62.5°	500.3	476.0	432.3	381.3	405.6
65°	429.9	405.6	366.7	374.0	310.9
67.5°	352.1	340.0	306.0	272.0	262.3
70°	286.6	272.0	259.9	223.4	213.7
72.5°	228.3	213.7	196.7	177.3	170.0
75°	172.4	160.3	150.6	143.3	157.9
77.5°	119.0	114.1	106.9	99.6	97.1
80°	77.7	75.3	72.9	70.4	68.0
82.5°	46.1	46.1	46.1	46.1	46.1
85°	24.3	26.7	29.1	31.6	34.0
87.5°	14.6	14.6	17.0	19.4	21.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)