

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: P560891

Luminaire Tested: FSR-12-4-LD4-1HI-50-UNV-80-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560891  
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-50-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 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

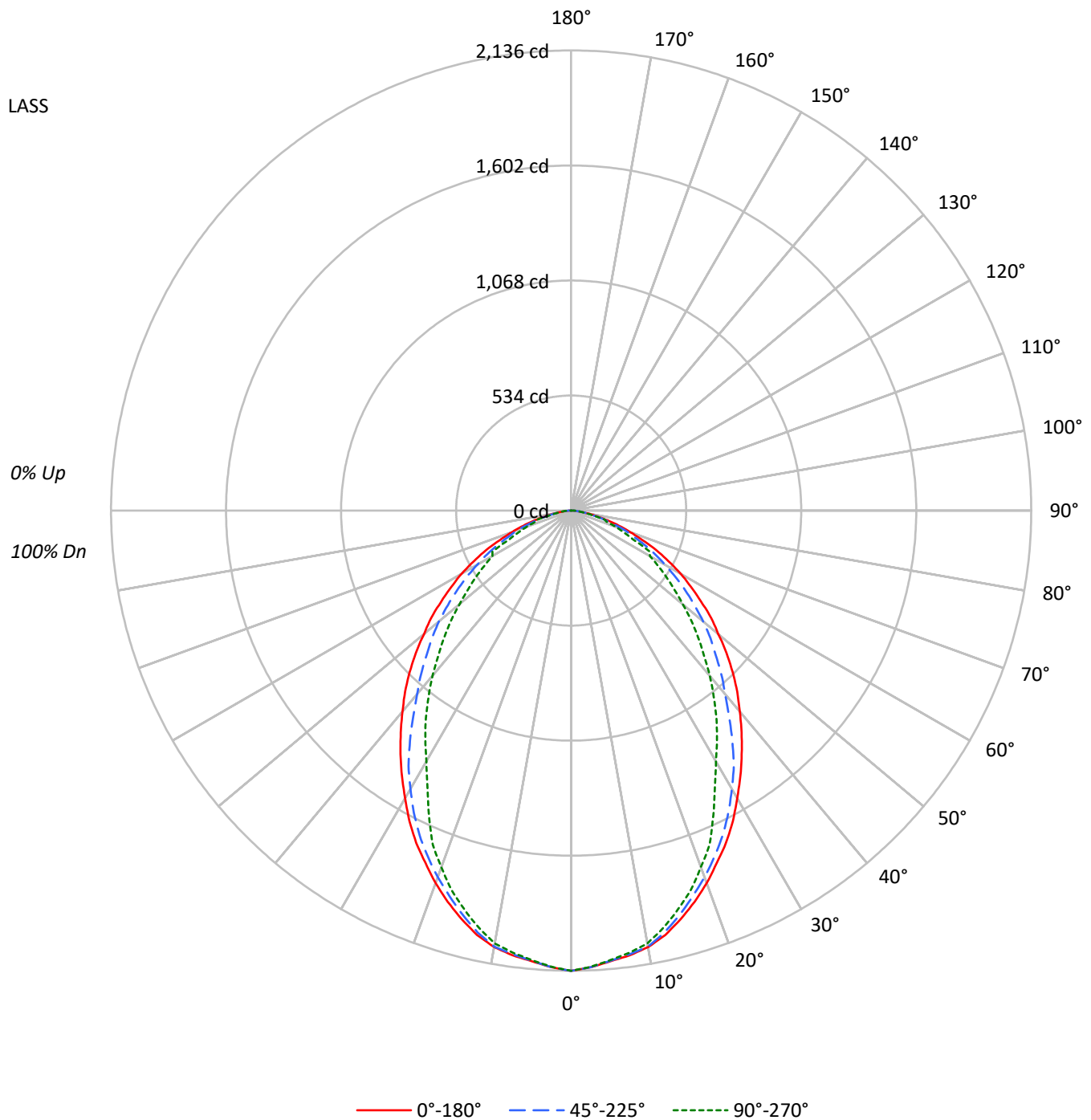
Lumens per Lamp: N/A  
Luminaire Lumens: 4194.0 lumens  
Efficiency: N/A  
Efficacy: 97.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	5749	5749	5749
5°	5671	5664	5658
10°	5622	5615	5574
15°	5470	5415	5339
20°	5269	5184	5043
25°	5053	4942	4635
30°	4789	4635	4175
35°	4535	4284	3862
40°	4277	3904	3514
45°	4032	3609	3177
50°	3733	3350	2833
55°	3453	3036	2538
60°	3164	2711	2273
65°	2784	2374	2013
70°	2293	2079	1710
75°	1824	1592	1669
80°	1224	1148	1072
85°	763	914	1068

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4032 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	198.9	4.7
10°-20°	545.8	13.0
20°-30°	755.6	18.0
30°-40°	805.7	19.2
40°-50°	735.0	17.5
50°-60°	575.8	13.7
60°-70°	375.3	8.9
70°-80°	166.3	4.0
80°-90°	35.7	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°	1500.2	35.8
0°-40°	2305.9	55.0
0°-60°	3616.7	86.2
0°-90°	4194.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4194.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2136	2136	2136	2136	2136	
5°	2099	2097	2097	2094	2094	199
15°	1964	1964	1944	1924	1917	552
25°	1702	1692	1665	1605	1561	781
35°	1381	1371	1304	1205	1176	863
45°	1060	1037	948	869	835	816
55°	736	714	647	570	541	660
65°	437	412	373	380	316	431
75°	175	163	153	146	160	188
85°	25	27	30	32	35	34
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2136.4	2136.4	2136.4	2136.4	2136.4
2.5°	2121.5	2121.5	2121.5	2119.1	2119.1
5°	2099.3	2096.9	2096.9	2094.4	2094.4
7.5°	2082.0	2079.6	2077.1	2074.6	2069.7
10°	2057.3	2057.3	2054.9	2042.5	2040.0
12.5°	2017.8	2015.3	2005.5	1988.2	1983.2
15°	1963.5	1963.5	1943.7	1924.0	1916.6
17.5°	1904.2	1901.7	1877.0	1857.3	1847.4
20°	1840.0	1835.1	1810.4	1778.2	1761.0
22.5°	1768.4	1768.4	1738.7	1696.7	1679.5
25°	1701.7	1691.8	1664.6	1605.4	1560.9
27.5°	1625.1	1610.3	1580.7	1496.7	1444.8
30°	1541.1	1533.7	1491.8	1383.1	1343.6
32.5°	1462.1	1449.8	1405.3	1291.7	1259.6
35°	1380.6	1370.7	1304.0	1205.3	1175.6
37.5°	1299.1	1286.8	1202.8	1123.8	1086.7
40°	1217.6	1202.8	1111.4	1039.8	1000.3
42.5°	1141.0	1121.3	1032.4	955.8	911.4
45°	1059.5	1037.3	948.4	869.4	834.8
47.5°	978.0	958.3	876.8	795.3	755.8
50°	891.6	874.3	800.2	718.7	676.7
52.5°	820.0	792.8	721.2	639.7	605.1
55°	736.0	713.8	647.1	570.5	540.9
57.5°	659.4	637.2	575.5	503.8	479.1
60°	587.8	555.7	503.8	442.1	422.3
62.5°	508.8	484.1	439.6	387.8	412.5
65°	437.2	412.5	372.9	380.3	316.1
67.5°	358.1	345.8	311.2	276.6	266.7
70°	291.4	276.6	264.3	227.2	217.3
72.5°	232.2	217.3	200.1	180.3	172.9
75°	175.4	163.0	153.1	145.7	160.5
77.5°	121.0	116.1	108.7	101.3	98.8
80°	79.0	76.6	74.1	71.6	69.2
82.5°	46.9	46.9	46.9	46.9	46.9
85°	24.7	27.2	29.6	32.1	34.6
87.5°	14.8	14.8	17.3	19.8	22.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)