

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: P562303

Luminaire Tested: FSR-24-4-LD4-1STD-35-UNV-80-97-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562303  
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-LD4-1STD-35-UNV-80-97-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

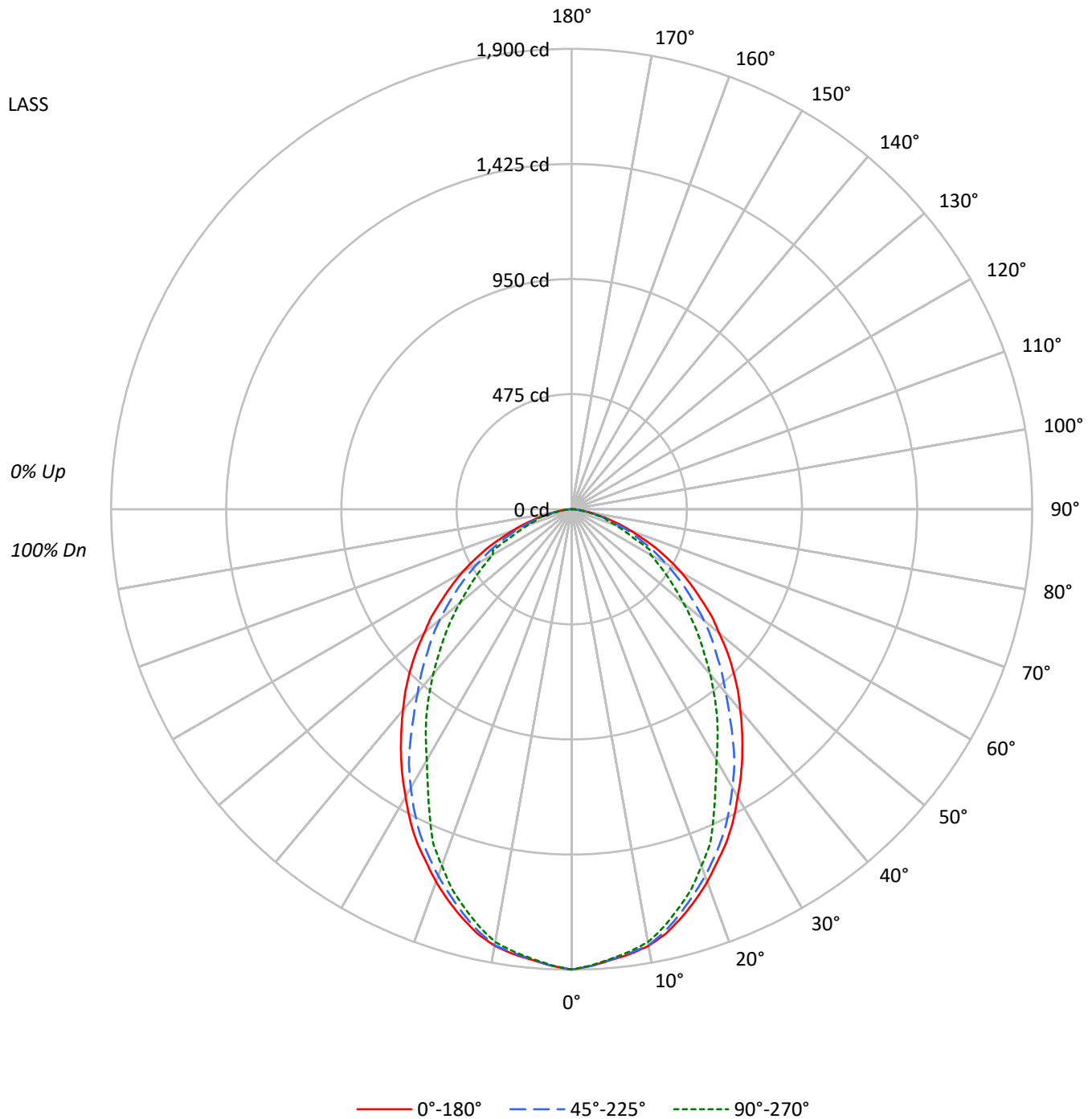
Lumens per Lamp: N/A  
Luminaire Lumens: 3729.0 lumens  
Efficiency: N/A  
Efficacy: 112.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	2556	2556	2556
5°	2521	2518	2515
10°	2499	2496	2478
15°	2432	2407	2374
20°	2342	2305	2242
25°	2246	2197	2060
30°	2129	2061	1856
35°	2016	1905	1717
40°	1901	1736	1562
45°	1793	1604	1412
50°	1659	1489	1259
55°	1535	1350	1128
60°	1406	1206	1010
65°	1238	1056	895
70°	1019	924	760
75°	810	708	742
80°	545	511	477
85°	340	408	474

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1793 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	176.8	4.7
10°-20°	485.3	13.0
20°-30°	671.8	18.0
30°-40°	716.4	19.2
40°-50°	653.5	17.5
50°-60°	512.0	13.7
60°-70°	333.7	8.9
70°-80°	147.8	4.0
80°-90°	31.7	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°	1333.9	35.8
0°-40°	2050.2	55.0
0°-60°	3215.7	86.2
0°-90°	3729.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3729.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1900	1900	1900	1900	1900	
5°	1867	1864	1864	1862	1862	177
15°	1746	1746	1728	1711	1704	491
25°	1513	1504	1480	1427	1388	695
35°	1228	1219	1160	1072	1045	767
45°	942	922	843	773	742	726
55°	654	635	575	507	481	587
65°	389	367	332	338	281	383
75°	156	145	136	130	143	167
85°	22	24	26	28	31	30
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1899.5	1899.5	1899.5	1899.5	1899.5
2.5°	1886.3	1886.3	1886.3	1884.1	1884.1
5°	1866.6	1864.4	1864.4	1862.2	1862.2
7.5°	1851.2	1849.0	1846.8	1844.6	1840.2
10°	1829.2	1829.2	1827.0	1816.1	1813.9
12.5°	1794.1	1791.9	1783.1	1767.7	1763.4
15°	1745.8	1745.8	1728.2	1710.7	1704.1
17.5°	1693.1	1690.9	1668.9	1651.4	1642.6
20°	1636.0	1631.6	1609.6	1581.1	1565.7
22.5°	1572.3	1572.3	1546.0	1508.6	1493.3
25°	1513.0	1504.2	1480.1	1427.4	1387.8
27.5°	1444.9	1431.8	1405.4	1330.7	1284.6
30°	1370.3	1363.7	1326.4	1229.7	1194.6
32.5°	1300.0	1289.0	1249.5	1148.5	1119.9
35°	1227.5	1218.8	1159.5	1071.6	1045.3
37.5°	1155.1	1144.1	1069.4	999.2	966.2
40°	1082.6	1069.4	988.2	924.5	889.4
42.5°	1014.5	997.0	917.9	849.8	810.3
45°	942.1	922.3	843.2	773.0	742.2
47.5°	869.6	852.0	779.6	707.1	672.0
50°	792.7	777.4	711.5	639.0	601.7
52.5°	729.1	704.9	641.2	568.8	538.0
55°	654.4	634.6	575.3	507.3	480.9
57.5°	586.3	566.6	511.7	448.0	426.0
60°	522.6	494.1	448.0	393.1	375.5
62.5°	452.4	430.4	390.9	344.8	366.7
65°	388.7	366.7	331.6	338.2	281.1
67.5°	318.4	307.4	276.7	245.9	237.2
70°	259.1	245.9	235.0	202.0	193.2
72.5°	206.4	193.2	177.9	160.3	153.7
75°	155.9	144.9	136.1	129.6	142.7
77.5°	107.6	103.2	96.6	90.0	87.8
80°	70.3	68.1	65.9	63.7	61.5
82.5°	41.7	41.7	41.7	41.7	41.7
85°	22.0	24.2	26.4	28.5	30.7
87.5°	13.2	13.2	15.4	17.6	19.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)