

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: P562299

Luminaire Tested: FSR-24-4-LD4-1STD-35-UNV-80-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562299  
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-80-94-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

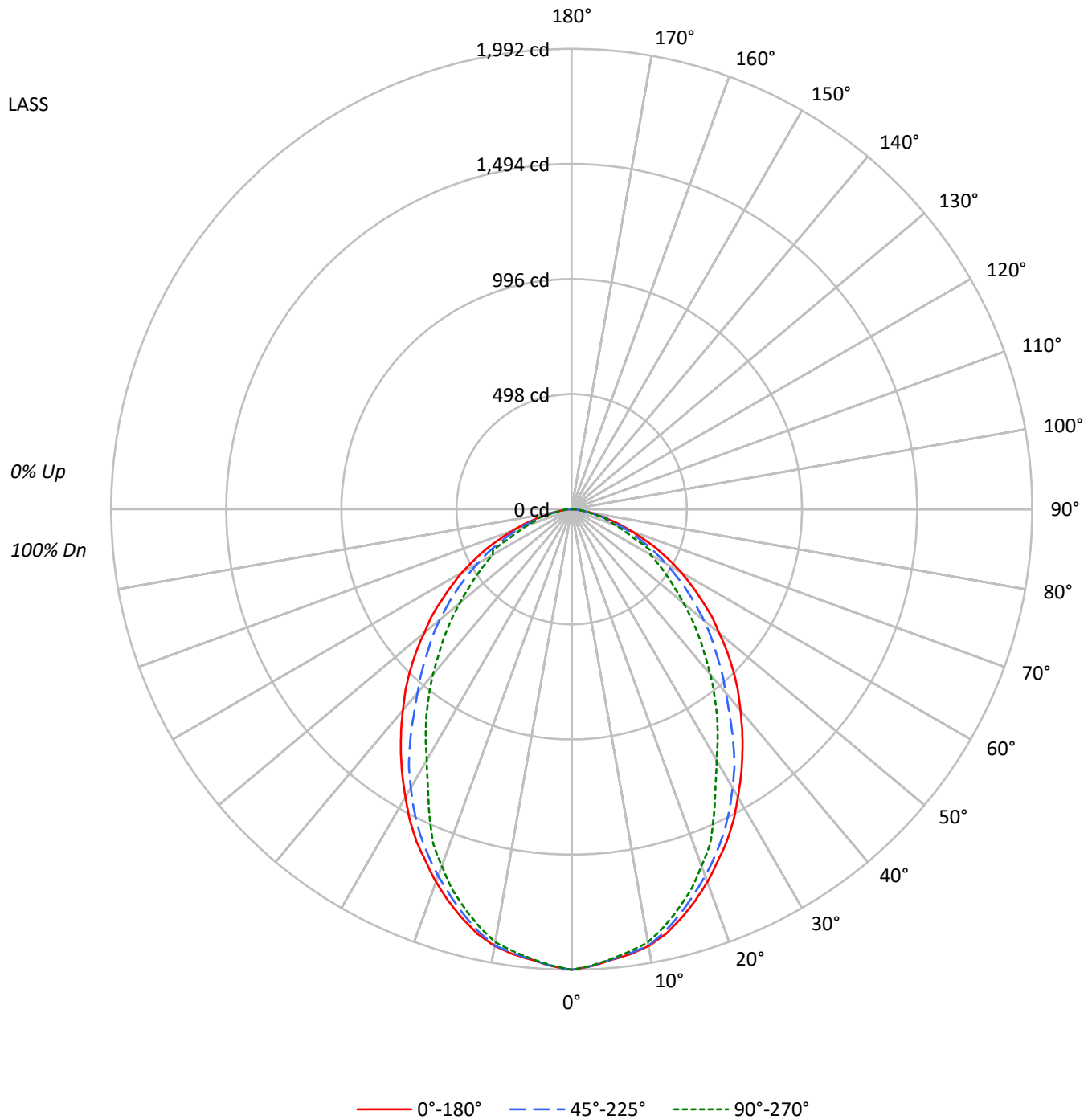
Lumens per Lamp: N/A  
Luminaire Lumens: 3911.0 lumens  
Efficiency: N/A  
Efficacy: 117.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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													100															
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87													87															
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75													75															
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65													65															
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56													56															
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50													50															
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44													44															
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40													40															
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36													36															
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33													33															
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30													30															

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

	0°	45°	90°
0°	2680	2680	2680
5°	2644	2641	2638
10°	2621	2618	2599
15°	2550	2525	2489
20°	2457	2417	2351
25°	2356	2305	2161
30°	2233	2161	1947
35°	2115	1997	1801
40°	1994	1820	1638
45°	1880	1683	1481
50°	1740	1562	1321
55°	1610	1415	1183
60°	1475	1264	1060
65°	1298	1107	939
70°	1069	969	797
75°	850	742	778
80°	571	535	500
85°	355	426	497

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1880 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	185.4	4.7
10°-20°	508.9	13.0
20°-30°	704.6	18.0
30°-40°	751.3	19.2
40°-50°	685.4	17.5
50°-60°	537.0	13.7
60°-70°	350.0	8.9
70°-80°	155.0	4.0
80°-90°	33.3	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°	1399.0	35.8
0°-40°	2150.3	55.0
0°-60°	3372.7	86.2
0°-90°	3911.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3911.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1992	1992	1992	1992	1992	
5°	1958	1955	1955	1953	1953	186
15°	1831	1831	1813	1794	1787	515
25°	1587	1578	1552	1497	1456	729
35°	1288	1278	1216	1124	1096	805
45°	988	967	884	811	778	761
55°	686	666	603	532	504	616
65°	408	385	348	355	295	402
75°	164	152	143	136	150	175
85°	23	25	28	30	32	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1992.2	1992.2	1992.2	1992.2	1992.2
2.5°	1978.4	1978.4	1978.4	1976.1	1976.1
5°	1957.7	1955.4	1955.4	1953.1	1953.1
7.5°	1941.5	1939.2	1936.9	1934.6	1930.0
10°	1918.5	1918.5	1916.2	1904.7	1902.4
12.5°	1881.7	1879.4	1870.1	1854.0	1849.4
15°	1831.0	1831.0	1812.6	1794.1	1787.2
17.5°	1775.7	1773.4	1750.4	1732.0	1722.7
20°	1715.8	1711.2	1688.2	1658.3	1642.1
22.5°	1649.0	1649.0	1621.4	1582.3	1566.1
25°	1586.9	1577.6	1552.3	1497.0	1455.6
27.5°	1515.5	1501.6	1474.0	1395.7	1347.3
30°	1437.2	1430.2	1391.1	1289.8	1252.9
32.5°	1363.5	1351.9	1310.5	1204.5	1174.6
35°	1287.5	1278.2	1216.1	1123.9	1096.3
37.5°	1211.4	1199.9	1121.6	1047.9	1013.4
40°	1135.4	1121.6	1036.4	969.6	932.8
42.5°	1064.0	1045.6	962.7	891.3	849.9
45°	988.0	967.3	884.4	810.7	778.5
47.5°	912.0	893.6	817.6	741.6	704.8
50°	831.4	815.3	746.2	670.2	631.1
52.5°	764.6	739.3	672.5	596.5	564.3
55°	686.3	665.6	603.4	532.0	504.4
57.5°	614.9	594.2	536.6	469.8	446.8
60°	548.1	518.2	469.8	412.3	393.8
62.5°	474.4	451.4	410.0	361.6	384.6
65°	407.7	384.6	347.8	354.7	294.8
67.5°	334.0	322.4	290.2	258.0	248.7
70°	271.8	258.0	246.4	211.9	202.7
72.5°	216.5	202.7	186.6	168.1	161.2
75°	163.5	152.0	142.8	135.9	149.7
77.5°	112.9	108.2	101.3	94.4	92.1
80°	73.7	71.4	69.1	66.8	64.5
82.5°	43.8	43.8	43.8	43.8	43.8
85°	23.0	25.3	27.6	29.9	32.2
87.5°	13.8	13.8	16.1	18.4	20.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)