

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: P562429

Luminaire Tested: FSR-24-4-LD4-1STD-50-UNV-80-96-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562429  
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-50-UNV-80-96-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

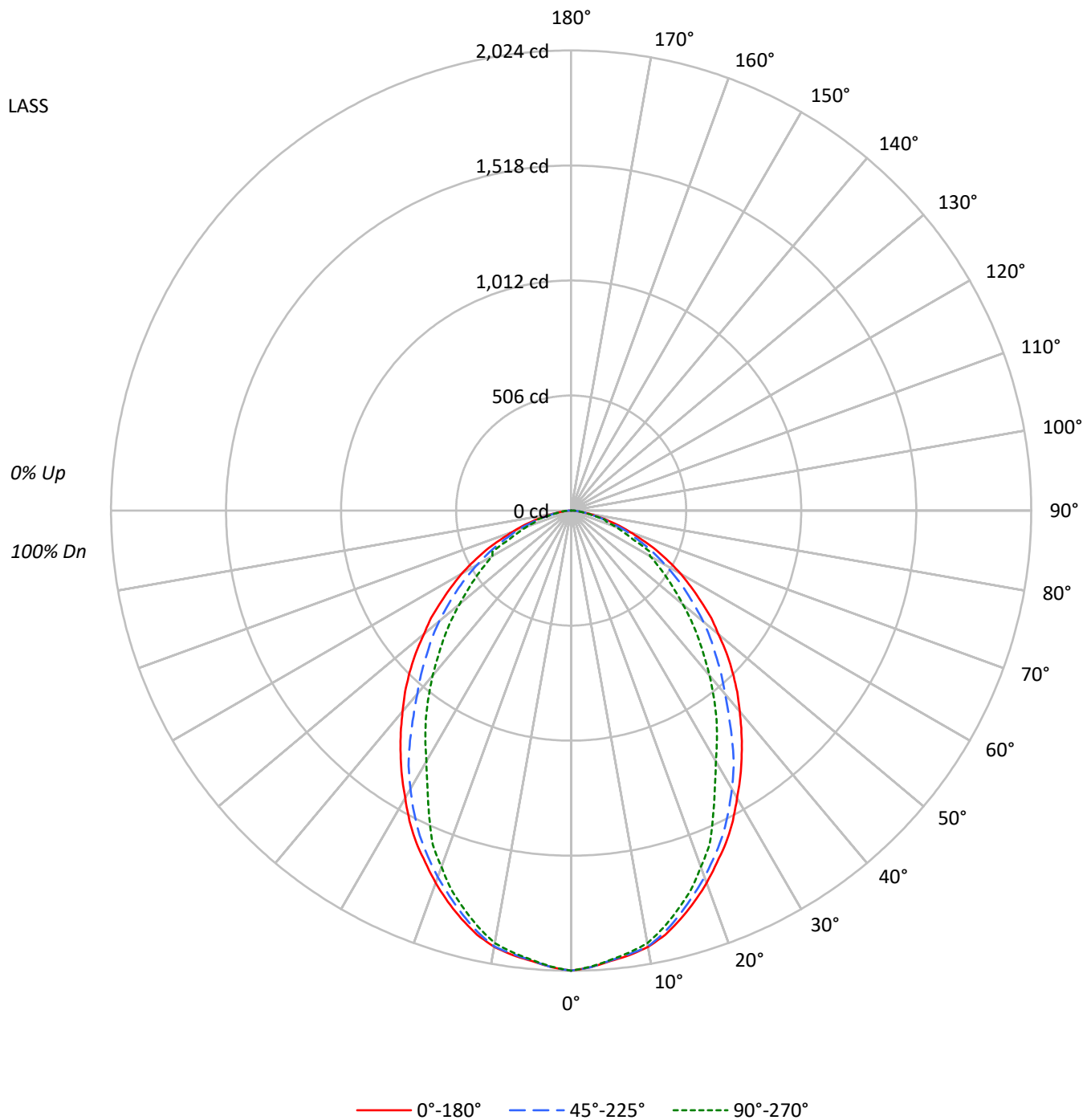
Lumens per Lamp: N/A  
Luminaire Lumens: 3973.0 lumens  
Efficiency: N/A  
Efficacy: 119.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	2723	2723	2723
5°	2686	2683	2680
10°	2663	2660	2640
15°	2591	2565	2529
20°	2496	2456	2389
25°	2393	2341	2195
30°	2268	2195	1977
35°	2148	2029	1829
40°	2026	1849	1664
45°	1910	1709	1505
50°	1768	1587	1342
55°	1635	1438	1202
60°	1498	1284	1077
65°	1318	1125	954
70°	1086	985	810
75°	863	754	791
80°	580	544	508
85°	361	434	506

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1910 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	188.4	4.7
10°-20°	517.0	13.0
20°-30°	715.8	18.0
30°-40°	763.2	19.2
40°-50°	696.3	17.5
50°-60°	545.5	13.7
60°-70°	355.5	8.9
70°-80°	157.5	4.0
80°-90°	33.8	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°	1421.2	35.8
0°-40°	2184.4	55.0
0°-60°	3426.2	86.2
0°-90°	3973.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3973.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2024	2024	2024	2024	2024	
5°	1989	1986	1986	1984	1984	189
15°	1860	1860	1841	1823	1816	523
25°	1612	1603	1577	1521	1479	740
35°	1308	1298	1235	1142	1114	818
45°	1004	983	898	824	791	773
55°	697	676	613	540	512	625
65°	414	391	353	360	300	408
75°	166	154	145	138	152	178
85°	23	26	28	30	33	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2023.8	2023.8	2023.8	2023.8	2023.8
2.5°	2009.8	2009.8	2009.8	2007.4	2007.4
5°	1988.7	1986.4	1986.4	1984.0	1984.0
7.5°	1972.3	1970.0	1967.6	1965.3	1960.6
10°	1948.9	1948.9	1946.6	1934.9	1932.5
12.5°	1911.5	1909.2	1899.8	1883.4	1878.7
15°	1860.0	1860.0	1841.3	1822.6	1815.6
17.5°	1803.9	1801.5	1778.1	1759.4	1750.1
20°	1743.0	1738.4	1715.0	1684.5	1668.2
22.5°	1675.2	1675.2	1647.1	1607.3	1591.0
25°	1612.0	1602.7	1576.9	1520.8	1478.7
27.5°	1539.5	1525.4	1497.4	1417.8	1368.7
30°	1459.9	1452.9	1413.1	1310.2	1272.8
32.5°	1385.1	1373.4	1331.3	1223.6	1193.2
35°	1307.9	1298.5	1235.3	1141.7	1113.7
37.5°	1230.7	1219.0	1139.4	1064.5	1029.4
40°	1153.4	1139.4	1052.8	985.0	947.6
42.5°	1080.9	1062.2	978.0	905.4	863.3
45°	1003.7	982.7	898.4	823.6	790.8
47.5°	926.5	907.8	830.6	753.4	715.9
50°	844.6	828.2	758.0	680.8	641.1
52.5°	776.8	751.0	683.2	606.0	573.2
55°	697.2	676.2	613.0	540.5	512.4
57.5°	624.7	603.6	545.1	477.3	453.9
60°	556.8	526.4	477.3	418.8	400.1
62.5°	482.0	458.6	416.5	367.3	390.7
65°	414.1	390.7	353.3	360.3	299.5
67.5°	339.2	327.6	294.8	262.0	252.7
70°	276.1	262.0	250.3	215.2	205.9
72.5°	219.9	205.9	189.5	170.8	163.8
75°	166.1	154.4	145.1	138.0	152.1
77.5°	114.6	110.0	102.9	95.9	93.6
80°	74.9	72.5	70.2	67.8	65.5
82.5°	44.5	44.5	44.5	44.5	44.5
85°	23.4	25.7	28.1	30.4	32.8
87.5°	14.0	14.0	16.4	18.7	21.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)