

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: P562104

Luminaire Tested: FSR-24-4-LD4-1HI-50-UNV-80-88-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562104  
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-LD4-1HI-50-UNV-80-88-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

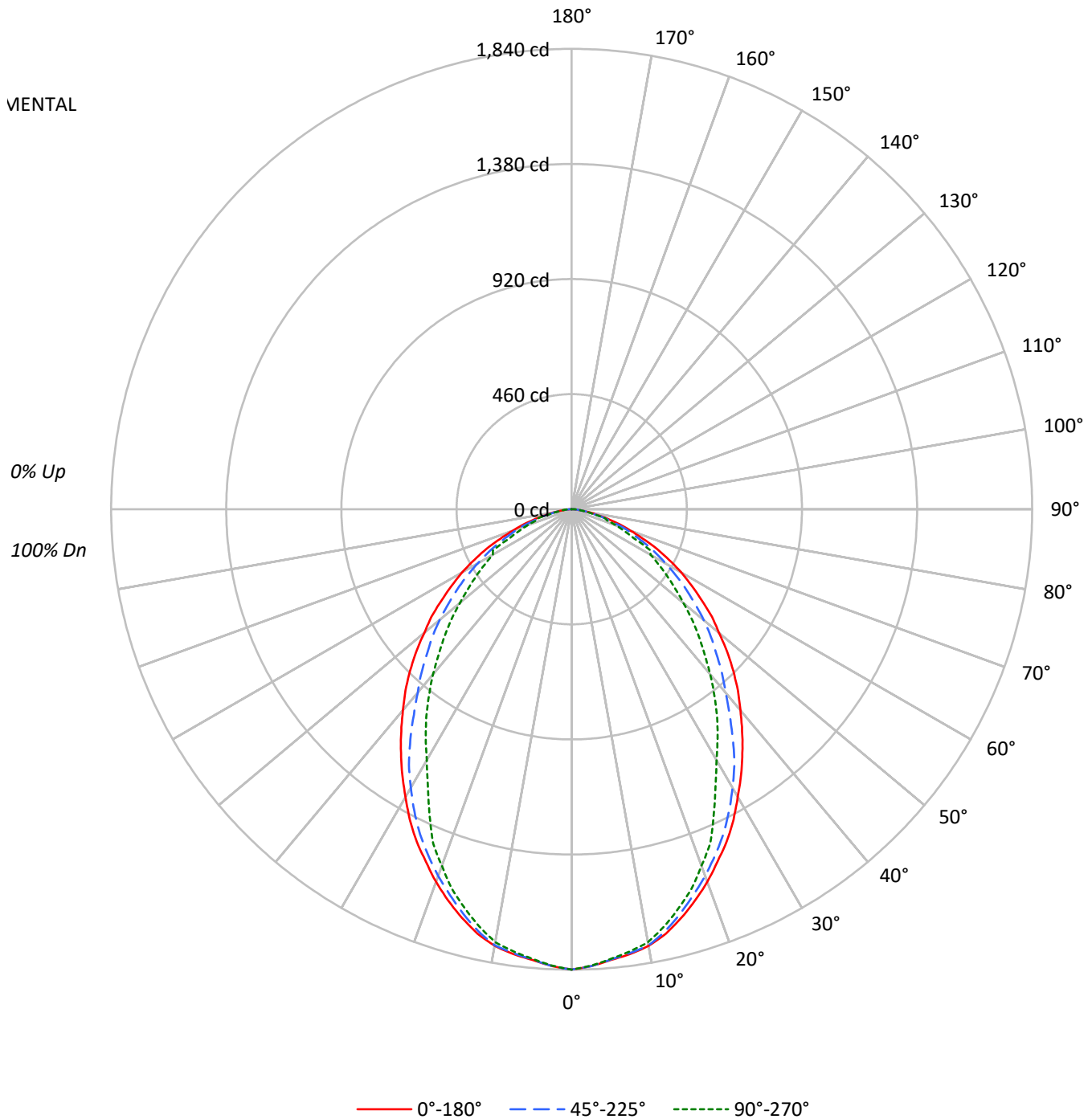
Lumens per Lamp: N/A  
Luminaire Lumens: 3612.0 lumens  
Efficiency: N/A  
Efficacy: 83.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	2476	2476	2476
5°	2442	2439	2436
10°	2421	2418	2400
15°	2355	2332	2299
20°	2269	2232	2172
25°	2176	2128	1996
30°	2062	1996	1798
35°	1953	1845	1663
40°	1842	1681	1513
45°	1736	1554	1368
50°	1607	1443	1220
55°	1487	1307	1093
60°	1362	1168	979
65°	1199	1023	867
70°	987	895	736
75°	785	686	719
80°	528	494	462
85°	329	394	460

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1736 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	171.3	4.7
10°-20°	470.0	13.0
20°-30°	650.7	18.0
30°-40°	693.9	19.2
40°-50°	633.0	17.5
50°-60°	495.9	13.7
60°-70°	323.2	8.9
70°-80°	143.2	4.0
80°-90°	30.7	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°	1292.0	35.8
0°-40°	1985.9	55.0
0°-60°	3114.8	86.2
0°-90°	3612.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3612.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1840	1840	1840	1840	1840	
5°	1808	1806	1806	1804	1804	172
15°	1691	1691	1674	1657	1651	475
25°	1466	1457	1434	1383	1344	673
35°	1189	1180	1123	1038	1012	743
45°	912	893	817	749	719	703
55°	634	615	557	491	466	569
65°	376	355	321	328	272	371
75°	151	140	132	126	138	162
85°	21	23	26	28	30	30
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1839.9	1839.9	1839.9	1839.9	1839.9
2.5°	1827.1	1827.1	1827.1	1825.0	1825.0
5°	1808.0	1805.9	1805.9	1803.7	1803.7
7.5°	1793.1	1791.0	1788.9	1786.7	1782.5
10°	1771.8	1771.8	1769.7	1759.1	1756.9
12.5°	1737.8	1735.7	1727.2	1712.3	1708.0
15°	1691.0	1691.0	1674.0	1657.0	1650.6
17.5°	1640.0	1637.8	1616.6	1599.5	1591.0
20°	1584.7	1580.4	1559.1	1531.5	1516.6
22.5°	1523.0	1523.0	1497.4	1461.3	1446.4
25°	1465.5	1457.0	1433.6	1382.6	1344.3
27.5°	1399.6	1386.8	1361.3	1289.0	1244.3
30°	1327.3	1320.9	1284.7	1191.2	1157.1
32.5°	1259.2	1248.6	1210.3	1112.5	1084.8
35°	1189.0	1180.5	1123.1	1038.0	1012.5
37.5°	1118.8	1108.2	1035.9	967.8	935.9
40°	1048.6	1035.9	957.2	895.5	861.5
42.5°	982.7	965.7	889.1	823.2	784.9
45°	912.5	893.4	816.8	748.7	718.9
47.5°	842.3	825.3	755.1	684.9	650.9
50°	767.9	753.0	689.2	619.0	582.8
52.5°	706.2	682.8	621.1	550.9	521.1
55°	633.9	614.7	557.3	491.4	465.8
57.5°	567.9	548.8	495.6	433.9	412.6
60°	506.2	478.6	433.9	380.7	363.7
62.5°	438.2	416.9	378.6	333.9	355.2
65°	376.5	355.2	321.2	327.6	272.3
67.5°	308.4	297.8	268.0	238.2	229.7
70°	251.0	238.2	227.6	195.7	187.2
72.5°	199.9	187.2	172.3	155.3	148.9
75°	151.0	140.4	131.9	125.5	138.3
77.5°	104.2	100.0	93.6	87.2	85.1
80°	68.1	65.9	63.8	61.7	59.6
82.5°	40.4	40.4	40.4	40.4	40.4
85°	21.3	23.4	25.5	27.7	29.8
87.5°	12.8	12.8	14.9	17.0	19.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)