

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: P590706

Luminaire Tested: FSR-24-2-LD4-3STD-50-UNV-93-94-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590706  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-2-LD4-3STD-50-UNV-93-94-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

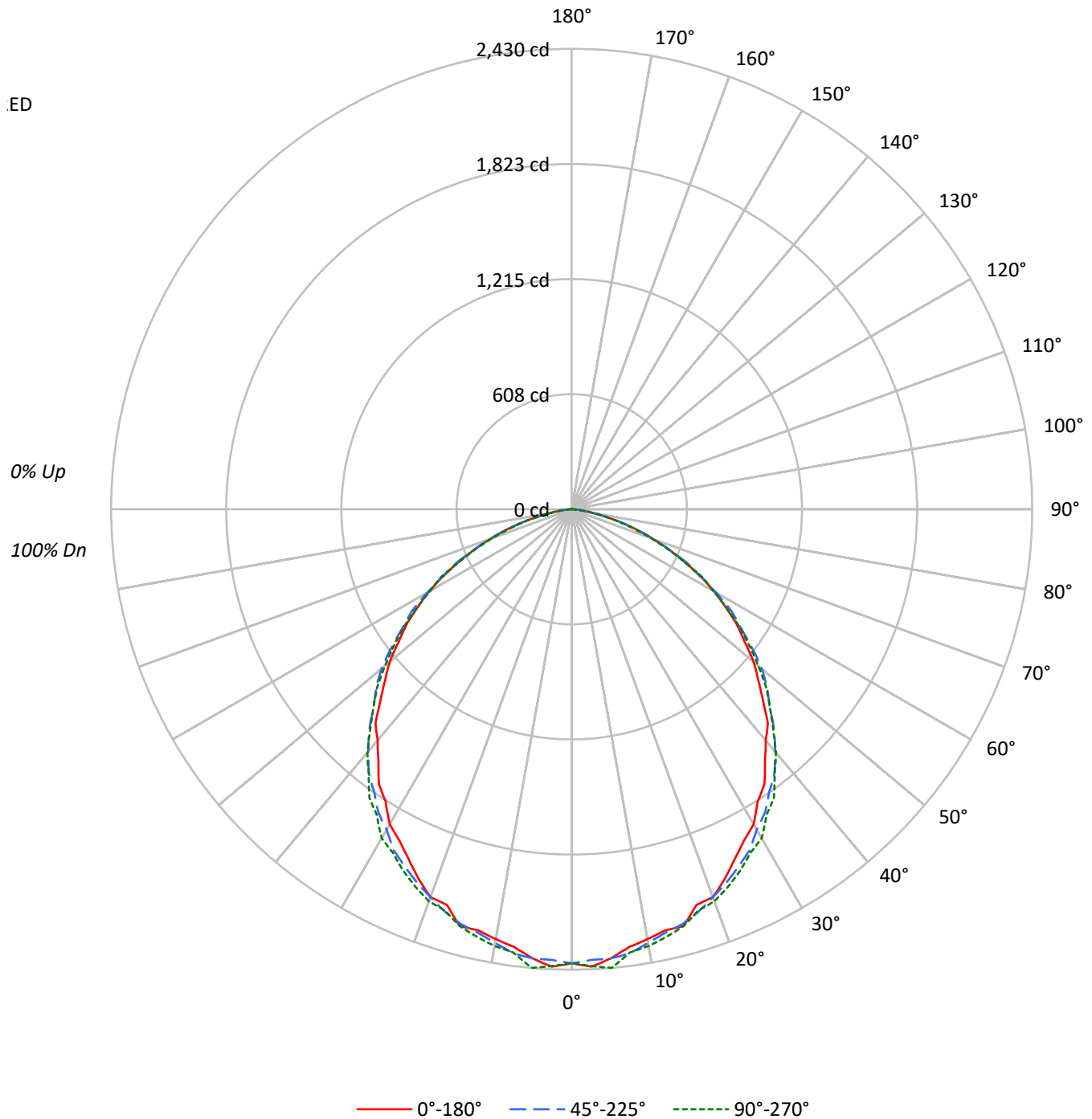
Lumens per Lamp: N/A  
Luminaire Lumens: 6038.0 lumens  
Efficiency: N/A  
Efficacy: 120.8 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 50  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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			
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86					86			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73					73			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62					62			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41					41			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36					36			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32					32			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29					29			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26					26			

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

	0°	45°	90°
0°	6447	6447	6447
5°	6425	6428	6564
10°	6295	6350	6395
15°	6345	6311	6346
20°	6238	6238	6304
25°	6046	6178	6246
30°	5963	6068	6229
35°	5822	5975	6109
40°	5596	5865	5892
45°	5427	5620	5628
50°	5249	5485	5380
55°	5001	5098	5062
60°	4676	4723	4638
65°	4169	4276	4140
70°	3578	3590	3490
75°	2833	2827	2718
80°	1898	1846	1774
85°	1031	1022	954

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 5765 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	225.4	3.7
10°-20°	638.7	10.6
20°-30°	956.9	15.8
30°-40°	1134.1	18.8
40°-50°	1136.2	18.8
50°-60°	964.4	16.0
60°-70°	650.2	10.8
70°-80°	285.7	4.7
80°-90°	46.4	0.8
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°	1820.9	30.2
0°-40°	2955.0	48.9
0°-60°	5055.6	83.7
0°-90°	6038.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6038.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2396	2396	2396	2396	2396	
5°	2379	2373	2380	2372	2430	224
15°	2278	2251	2265	2277	2278	635
25°	2036	2047	2081	2108	2104	941
35°	1772	1778	1819	1861	1860	1100
45°	1426	1453	1477	1515	1479	1103
55°	1066	1059	1087	1079	1079	948
65°	655	646	672	646	650	651
75°	272	267	272	253	261	292
85°	33	32	33	32	31	48
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2395.7	2395.7	2395.7	2395.7	2395.7
2.5°	2416.5	2398.2	2381.2	2401.0	2413.0
5°	2378.7	2373.1	2379.6	2372.5	2429.8
7.5°	2329.8	2351.2	2363.6	2355.8	2359.2
10°	2303.9	2296.4	2324.0	2343.1	2340.4
12.5°	2276.0	2287.2	2288.7	2309.4	2311.3
15°	2277.6	2251.3	2265.2	2276.9	2277.9
17.5°	2189.1	2217.6	2227.1	2254.1	2220.6
20°	2178.3	2157.5	2178.3	2205.8	2201.5
22.5°	2111.8	2088.6	2133.1	2157.5	2156.0
25°	2036.3	2047.4	2080.8	2108.1	2103.7
27.5°	1970.1	1983.1	2030.7	2068.2	2044.0
30°	1919.1	1912.6	1952.8	1986.2	2004.7
32.5°	1827.8	1851.3	1898.3	1931.4	1913.8
35°	1772.4	1777.7	1818.8	1860.9	1859.7
37.5°	1675.6	1700.1	1757.9	1769.7	1758.8
40°	1593.0	1617.5	1669.7	1682.4	1677.2
42.5°	1532.1	1536.4	1581.3	1595.8	1572.6
45°	1426.0	1452.6	1476.7	1514.8	1478.9
47.5°	1335.7	1348.0	1400.0	1410.2	1391.3
50°	1253.7	1258.0	1310.3	1297.6	1285.2
52.5°	1150.7	1168.9	1198.3	1195.9	1181.3
55°	1065.9	1058.8	1086.7	1079.2	1078.9
57.5°	964.2	976.5	999.4	987.7	968.8
60°	868.9	869.2	877.6	864.3	861.8
62.5°	762.8	766.5	768.4	752.0	778.6
65°	654.8	646.2	671.5	645.9	650.2
67.5°	555.5	559.9	557.4	541.3	547.5
70°	454.7	460.3	456.3	438.0	443.6
72.5°	362.5	355.7	360.1	337.2	347.7
75°	272.5	266.9	271.9	252.7	261.4
77.5°	185.6	189.9	186.8	176.6	182.5
80°	122.5	119.1	119.1	113.2	114.5
82.5°	71.5	68.1	67.1	65.3	68.1
85°	33.4	32.5	33.1	32.2	30.9
87.5°	12.1	12.4	12.4	11.8	11.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)