

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: P562157

Luminaire Tested: FSR-24-4-LD4-1HI-50-UNV-93-96-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562157  
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-93-96-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

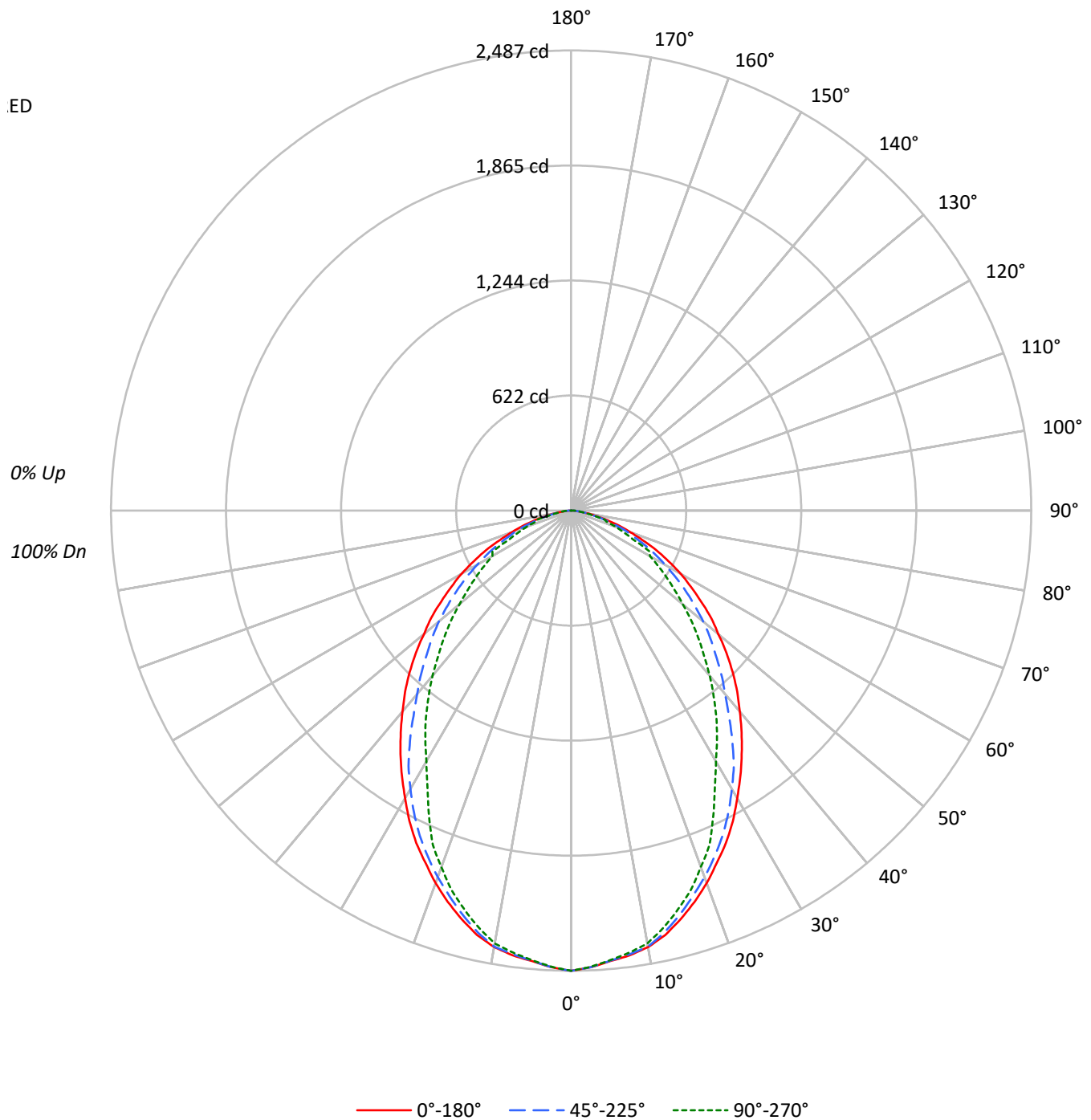
Lumens per Lamp: N/A  
Luminaire Lumens: 4883.0 lumens  
Efficiency: N/A  
Efficacy: 113.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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									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°	3347	3347	3347
5°	3301	3297	3294
10°	3273	3269	3245
15°	3184	3152	3108
20°	3067	3018	2936
25°	2941	2877	2698
30°	2788	2698	2430
35°	2640	2494	2248
40°	2490	2273	2046
45°	2347	2101	1849
50°	2173	1950	1649
55°	2010	1767	1477
60°	1842	1579	1323
65°	1621	1382	1172
70°	1335	1210	995
75°	1062	927	972
80°	713	669	624
85°	445	533	622

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2347 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	231.5	4.7
10°-20°	635.4	13.0
20°-30°	879.7	18.0
30°-40°	938.0	19.2
40°-50°	855.8	17.5
50°-60°	670.4	13.7
60°-70°	437.0	8.9
70°-80°	193.6	4.0
80°-90°	41.6	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°	1746.7	35.8
0°-40°	2684.7	55.0
0°-60°	4210.9	86.2
0°-90°	4883.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4883.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2487	2487	2487	2487	2487	
5°	2444	2441	2441	2438	2438	232
15°	2286	2286	2263	2240	2231	643
25°	1981	1970	1938	1869	1817	910
35°	1607	1596	1518	1403	1369	1005
45°	1234	1208	1104	1012	972	950
55°	857	831	753	664	630	769
65°	509	480	434	443	368	502
75°	204	190	178	170	187	219
85°	29	32	34	37	40	40
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2487.3	2487.3	2487.3	2487.3	2487.3
2.5°	2470.1	2470.1	2470.1	2467.2	2467.2
5°	2444.2	2441.3	2441.3	2438.5	2438.5
7.5°	2424.1	2421.2	2418.3	2415.4	2409.7
10°	2395.3	2395.3	2392.4	2378.1	2375.2
12.5°	2349.3	2346.4	2334.9	2314.8	2309.1
15°	2286.0	2286.0	2263.0	2240.0	2231.4
17.5°	2217.0	2214.2	2185.4	2162.4	2150.9
20°	2142.3	2136.5	2107.8	2070.4	2050.3
22.5°	2058.9	2058.9	2024.4	1975.5	1955.4
25°	1981.2	1969.7	1938.1	1869.1	1817.3
27.5°	1892.1	1874.8	1840.3	1742.6	1682.2
30°	1794.3	1785.7	1736.8	1610.3	1564.3
32.5°	1702.3	1687.9	1636.2	1503.9	1466.5
35°	1607.4	1595.9	1518.3	1403.3	1368.8
37.5°	1512.5	1498.2	1400.4	1308.4	1265.2
40°	1417.6	1400.4	1294.0	1210.6	1164.6
42.5°	1328.5	1305.5	1202.0	1112.8	1061.1
45°	1233.6	1207.7	1104.2	1012.2	971.9
47.5°	1138.7	1115.7	1020.8	925.9	879.9
50°	1038.1	1017.9	931.7	836.8	787.9
52.5°	954.7	923.0	839.7	744.8	704.5
55°	856.9	831.0	753.4	664.2	629.7
57.5°	767.8	741.9	670.0	586.6	557.9
60°	684.4	647.0	586.6	514.7	491.7
62.5°	592.4	563.6	511.8	451.5	480.2
65°	509.0	480.2	434.2	442.8	368.1
67.5°	417.0	402.6	362.3	322.1	310.6
70°	339.3	322.1	307.7	264.5	253.0
72.5°	270.3	253.0	232.9	209.9	201.3
75°	204.2	189.8	178.3	169.7	186.9
77.5°	140.9	135.1	126.5	117.9	115.0
80°	92.0	89.1	86.3	83.4	80.5
82.5°	54.6	54.6	54.6	54.6	54.6
85°	28.8	31.6	34.5	37.4	40.3
87.5°	17.3	17.3	20.1	23.0	25.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)