

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: P562123

Luminaire Tested: FSR-24-4-LD4-1HI-50-UNV-81-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562123  
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-81-94-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

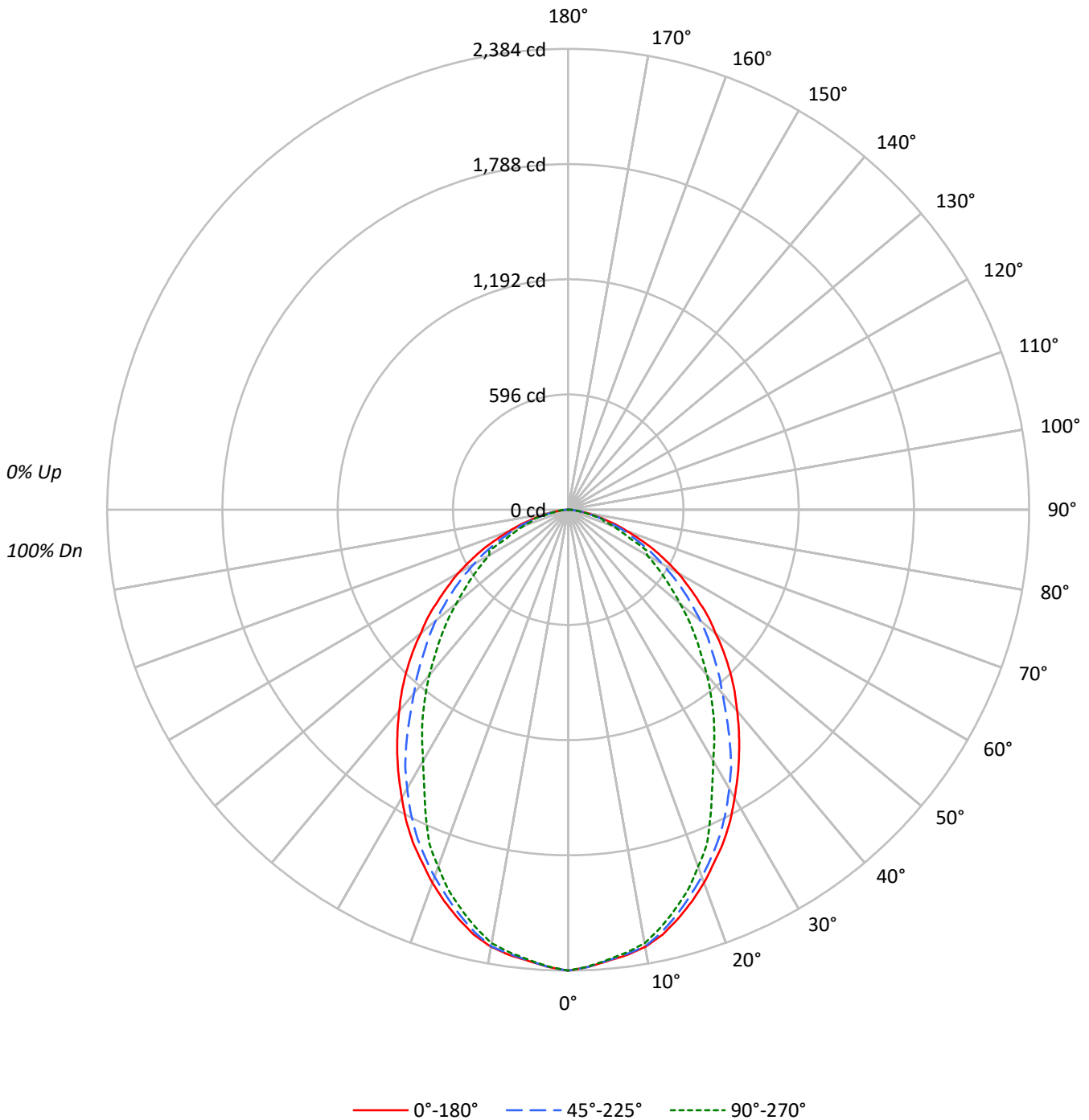
Lumens per Lamp: N/A  
Luminaire Lumens: 4681.0 lumens  
Efficiency: N/A  
Efficacy: 108.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	3208	3208	3208
5°	3165	3161	3157
10°	3137	3133	3111
15°	3053	3022	2980
20°	2940	2893	2814
25°	2820	2758	2586
30°	2672	2587	2330
35°	2531	2391	2155
40°	2387	2179	1961
45°	2250	2014	1773
50°	2083	1869	1581
55°	1927	1694	1416
60°	1766	1513	1269
65°	1553	1325	1123
70°	1280	1161	954
75°	1017	888	932
80°	683	641	598
85°	426	511	596

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2250 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	222.0	4.7
10°-20°	609.1	13.0
20°-30°	843.3	18.0
30°-40°	899.2	19.2
40°-50°	820.4	17.5
50°-60°	642.7	13.7
60°-70°	418.9	8.9
70°-80°	185.6	4.0
80°-90°	39.8	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°	1674.4	35.8
0°-40°	2573.7	55.0
0°-60°	4036.7	86.2
0°-90°	4681.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4681.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2384	2384	2384	2384	2384	
5°	2343	2340	2340	2338	2338	222
15°	2192	2192	2169	2147	2139	616
25°	1899	1888	1858	1792	1742	872
35°	1541	1530	1456	1345	1312	963
45°	1183	1158	1058	970	932	911
55°	822	797	722	637	604	737
65°	488	460	416	424	353	481
75°	196	182	171	163	179	210
85°	28	30	33	36	39	38
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2384.4	2384.4	2384.4	2384.4	2384.4
2.5°	2367.9	2367.9	2367.9	2365.1	2365.1
5°	2343.1	2340.3	2340.3	2337.6	2337.6
7.5°	2323.8	2321.0	2318.3	2315.5	2310.0
10°	2296.2	2296.2	2293.5	2279.7	2276.9
12.5°	2252.1	2249.4	2238.3	2219.0	2213.5
15°	2191.5	2191.5	2169.4	2147.4	2139.1
17.5°	2125.3	2122.6	2095.0	2072.9	2061.9
20°	2053.6	2048.1	2020.6	1984.7	1965.4
22.5°	1973.7	1973.7	1940.6	1893.8	1874.5
25°	1899.3	1888.3	1857.9	1791.8	1742.2
27.5°	1813.8	1797.3	1764.2	1670.5	1612.6
30°	1720.1	1711.8	1665.0	1543.7	1499.6
32.5°	1631.9	1618.1	1568.5	1441.7	1405.9
35°	1540.9	1529.9	1455.5	1345.2	1312.1
37.5°	1450.0	1436.2	1342.5	1254.2	1212.9
40°	1359.0	1342.5	1240.5	1160.5	1116.4
42.5°	1273.5	1251.5	1152.2	1066.8	1017.2
45°	1182.6	1157.8	1058.5	970.3	931.7
47.5°	1091.6	1069.6	978.6	887.6	843.5
50°	995.1	975.8	893.1	802.2	755.3
52.5°	915.2	884.9	804.9	714.0	675.4
55°	821.5	796.7	722.2	636.8	603.7
57.5°	736.0	711.2	642.3	562.3	534.8
60°	656.1	620.2	562.3	493.4	471.4
62.5°	567.9	540.3	490.7	432.8	460.3
65°	487.9	460.3	416.2	424.5	352.8
67.5°	399.7	385.9	347.3	308.7	297.7
70°	325.3	308.7	295.0	253.6	242.6
72.5°	259.1	242.6	223.3	201.2	193.0
75°	195.7	181.9	170.9	162.6	179.2
77.5°	135.1	129.6	121.3	113.0	110.3
80°	88.2	85.5	82.7	79.9	77.2
82.5°	52.4	52.4	52.4	52.4	52.4
85°	27.6	30.3	33.1	35.8	38.6
87.5°	16.5	16.5	19.3	22.1	24.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)