

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: P562139

Luminaire Tested: FSR-24-4-LD4-1HI-50-UNV-82-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562139  
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-82-94-EDD  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

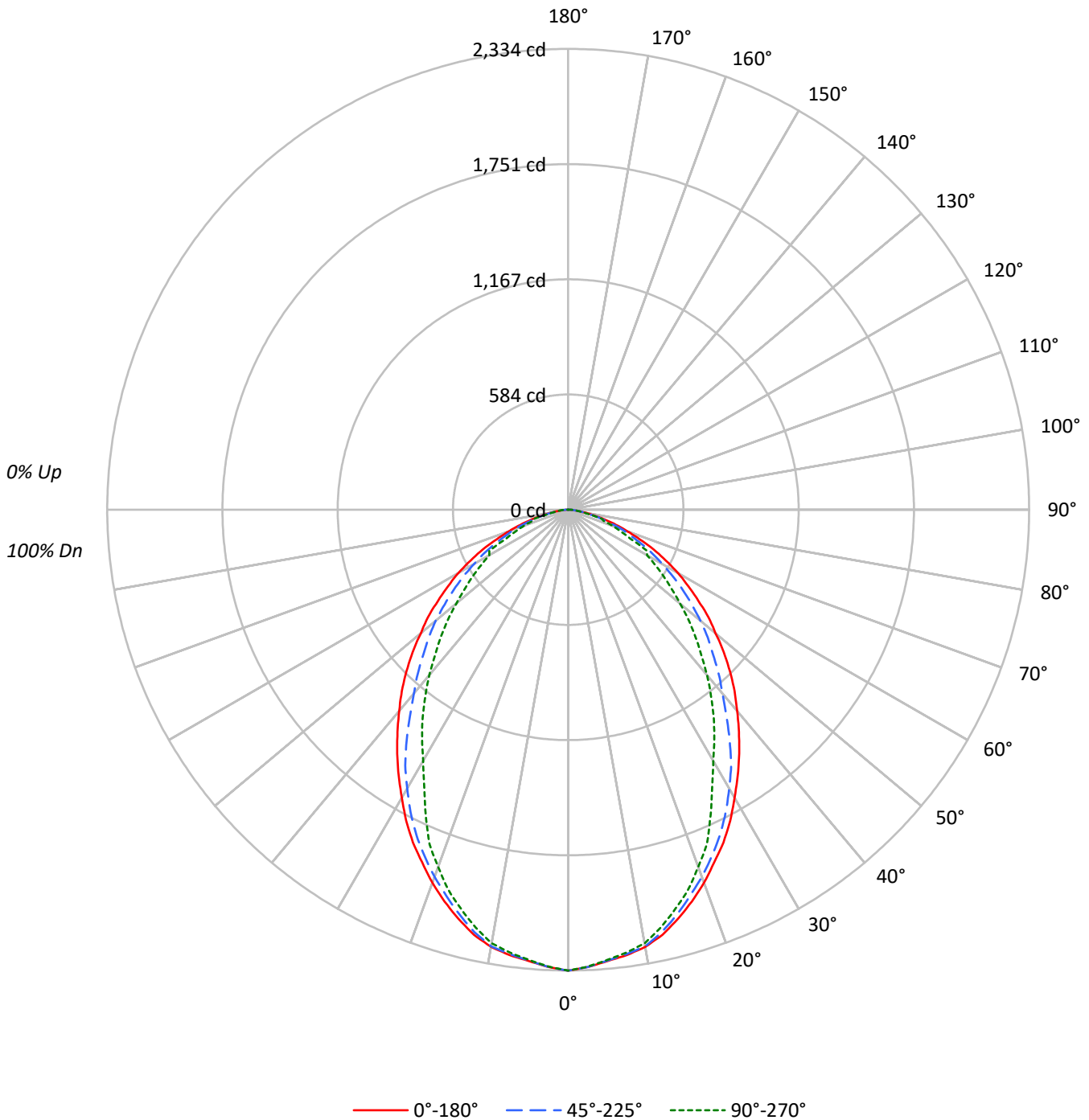
Lumens per Lamp: N/A  
Luminaire Lumens: 4583.0 lumens  
Efficiency: N/A  
Efficacy: 106.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	3141	3141	3141
5°	3098	3095	3091
10°	3072	3068	3046
15°	2989	2959	2917
20°	2879	2833	2755
25°	2761	2700	2532
30°	2616	2533	2281
35°	2478	2341	2110
40°	2337	2133	1920
45°	2203	1972	1736
50°	2039	1830	1548
55°	1887	1659	1387
60°	1728	1482	1242
65°	1521	1297	1100
70°	1253	1136	934
75°	996	870	912
80°	669	628	586
85°	417	500	584

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2203 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	217.3	4.7
10°-20°	596.4	13.0
20°-30°	825.7	18.0
30°-40°	880.4	19.2
40°-50°	803.2	17.5
50°-60°	629.2	13.7
60°-70°	410.1	8.9
70°-80°	181.7	4.0
80°-90°	39.0	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°	1639.4	35.8
0°-40°	2519.8	55.0
0°-60°	3952.2	86.2
0°-90°	4583.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4583.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2334	2334	2334	2334	2334	
5°	2294	2291	2291	2289	2289	218
15°	2146	2146	2124	2102	2094	603
25°	1860	1849	1819	1754	1706	854
35°	1509	1498	1425	1317	1285	943
45°	1158	1134	1036	950	912	892
55°	804	780	707	623	591	721
65°	478	451	408	416	346	471
75°	192	178	167	159	175	205
85°	27	30	32	35	38	37
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2334.5	2334.5	2334.5	2334.5	2334.5
2.5°	2318.3	2318.3	2318.3	2315.6	2315.6
5°	2294.0	2291.3	2291.3	2288.6	2288.6
7.5°	2275.1	2272.4	2269.7	2267.0	2261.6
10°	2248.2	2248.2	2245.5	2232.0	2229.3
12.5°	2205.0	2202.3	2191.5	2172.6	2167.2
15°	2145.6	2145.6	2124.0	2102.4	2094.3
17.5°	2080.8	2078.1	2051.1	2029.5	2018.8
20°	2010.7	2005.3	1978.3	1943.2	1924.3
22.5°	1932.4	1932.4	1900.0	1854.1	1835.2
25°	1859.5	1848.7	1819.0	1754.3	1705.7
27.5°	1775.9	1759.7	1727.3	1635.5	1578.8
30°	1684.1	1676.0	1630.1	1511.4	1468.2
32.5°	1597.7	1584.2	1535.7	1411.5	1376.4
35°	1508.7	1497.9	1425.0	1317.0	1284.7
37.5°	1419.6	1406.1	1314.3	1228.0	1187.5
40°	1330.5	1314.3	1214.5	1136.2	1093.0
42.5°	1246.9	1225.3	1128.1	1044.5	995.9
45°	1157.8	1133.5	1036.4	950.0	912.2
47.5°	1068.8	1047.2	958.1	869.0	825.9
50°	974.3	955.4	874.4	785.4	739.5
52.5°	896.0	866.3	788.1	699.0	661.2
55°	804.3	780.0	707.1	623.4	591.1
57.5°	720.6	696.3	628.8	550.6	523.6
60°	642.3	607.2	550.6	483.1	461.5
62.5°	556.0	529.0	480.4	423.7	450.7
65°	477.7	450.7	407.5	415.6	345.5
67.5°	391.3	377.8	340.1	302.3	291.5
70°	318.5	302.3	288.8	248.3	237.5
72.5°	253.7	237.5	218.6	197.0	188.9
75°	191.6	178.1	167.3	159.2	175.4
77.5°	132.2	126.8	118.8	110.7	108.0
80°	86.4	83.7	81.0	78.3	75.6
82.5°	51.3	51.3	51.3	51.3	51.3
85°	27.0	29.7	32.4	35.1	37.8
87.5°	16.2	16.2	18.9	21.6	24.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)