

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: P562036

Luminaire Tested: FSR-24-4-LD4-1HI-40-UNV-80-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562036  
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-40-UNV-80-86-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

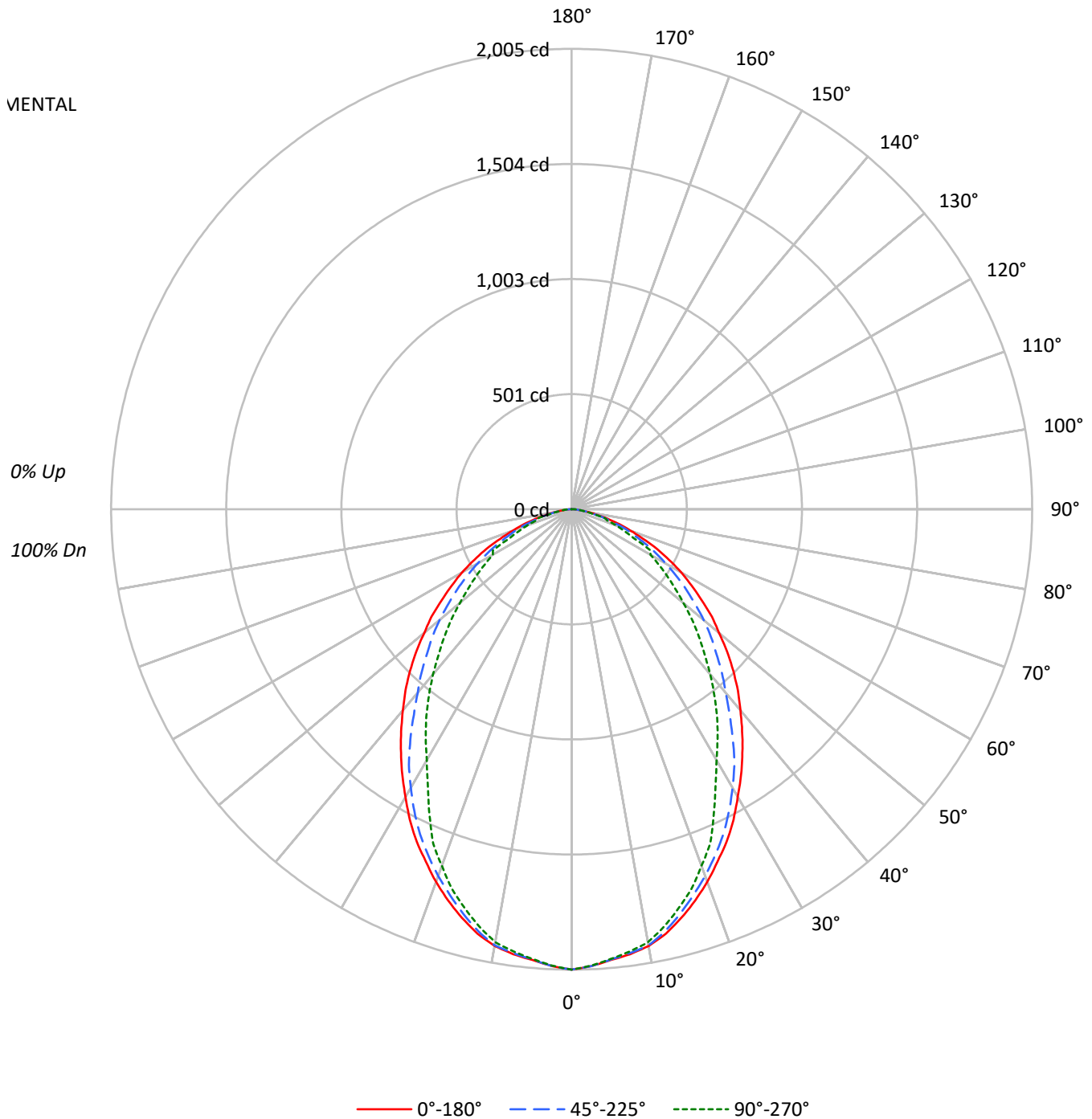
Lumens per Lamp: N/A  
Luminaire Lumens: 3936.0 lumens  
Efficiency: N/A  
Efficacy: 91.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	2698	2698	2698
5°	2661	2658	2655
10°	2638	2635	2616
15°	2567	2541	2506
20°	2473	2433	2366
25°	2371	2319	2175
30°	2247	2175	1959
35°	2128	2010	1812
40°	2007	1832	1649
45°	1892	1694	1491
50°	1751	1572	1329
55°	1620	1425	1191
60°	1484	1272	1067
65°	1306	1114	945
70°	1076	976	803
75°	856	747	783
80°	575	539	503
85°	358	429	500

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1892 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	186.6	4.7
10°-20°	512.2	13.0
20°-30°	709.1	18.0
30°-40°	756.1	19.2
40°-50°	689.8	17.5
50°-60°	540.4	13.7
60°-70°	352.2	8.9
70°-80°	156.0	4.0
80°-90°	33.5	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°	1407.9	35.8
0°-40°	2164.1	55.0
0°-60°	3394.2	86.2
0°-90°	3936.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3936.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2005	2005	2005	2005	2005	
5°	1970	1968	1968	1966	1966	187
15°	1843	1843	1824	1806	1799	518
25°	1597	1588	1562	1507	1465	733
35°	1296	1286	1224	1131	1103	810
45°	994	974	890	816	783	766
55°	691	670	607	535	508	620
65°	410	387	350	357	297	404
75°	165	153	144	137	151	176
85°	23	26	28	30	32	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2004.9	2004.9	2004.9	2004.9	2004.9
2.5°	1991.0	1991.0	1991.0	1988.7	1988.7
5°	1970.2	1967.9	1967.9	1965.5	1965.5
7.5°	1954.0	1951.6	1949.3	1947.0	1942.4
10°	1930.8	1930.8	1928.5	1916.9	1914.5
12.5°	1893.7	1891.4	1882.1	1865.9	1861.2
15°	1842.7	1842.7	1824.2	1805.6	1798.7
17.5°	1787.1	1784.7	1761.6	1743.0	1733.8
20°	1726.8	1722.2	1699.0	1668.9	1652.6
22.5°	1659.6	1659.6	1631.8	1592.4	1576.1
25°	1597.0	1587.7	1562.2	1506.6	1464.9
27.5°	1525.1	1511.2	1483.4	1404.6	1355.9
30°	1446.3	1439.4	1400.0	1298.0	1260.9
32.5°	1372.2	1360.6	1318.9	1212.2	1182.1
35°	1295.7	1286.4	1223.8	1131.1	1103.3
37.5°	1219.2	1207.6	1128.8	1054.6	1019.9
40°	1142.7	1128.8	1043.0	975.8	938.7
42.5°	1070.8	1052.3	968.9	897.0	855.3
45°	994.4	973.5	890.1	815.9	783.4
47.5°	917.9	899.3	822.8	746.3	709.3
50°	836.7	820.5	751.0	674.5	635.1
52.5°	769.5	744.0	676.8	600.3	567.9
55°	690.7	669.9	607.3	535.4	507.6
57.5°	618.9	598.0	540.1	472.8	449.7
60°	551.6	521.5	472.8	414.9	396.4
62.5°	477.5	454.3	412.6	363.9	387.1
65°	410.3	387.1	350.0	356.9	296.7
67.5°	336.1	324.5	292.0	259.6	250.3
70°	273.5	259.6	248.0	213.2	204.0
72.5°	217.9	204.0	187.7	169.2	162.2
75°	164.6	153.0	143.7	136.8	150.7
77.5°	113.6	108.9	102.0	95.0	92.7
80°	74.2	71.9	69.5	67.2	64.9
82.5°	44.0	44.0	44.0	44.0	44.0
85°	23.2	25.5	27.8	30.1	32.4
87.5°	13.9	13.9	16.2	18.5	20.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)