

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: P562742

Luminaire Tested: FSR-24-4-LD4-2LO-40-UNV-80-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562742  
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-LD4-2LO-40-UNV-80-87-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

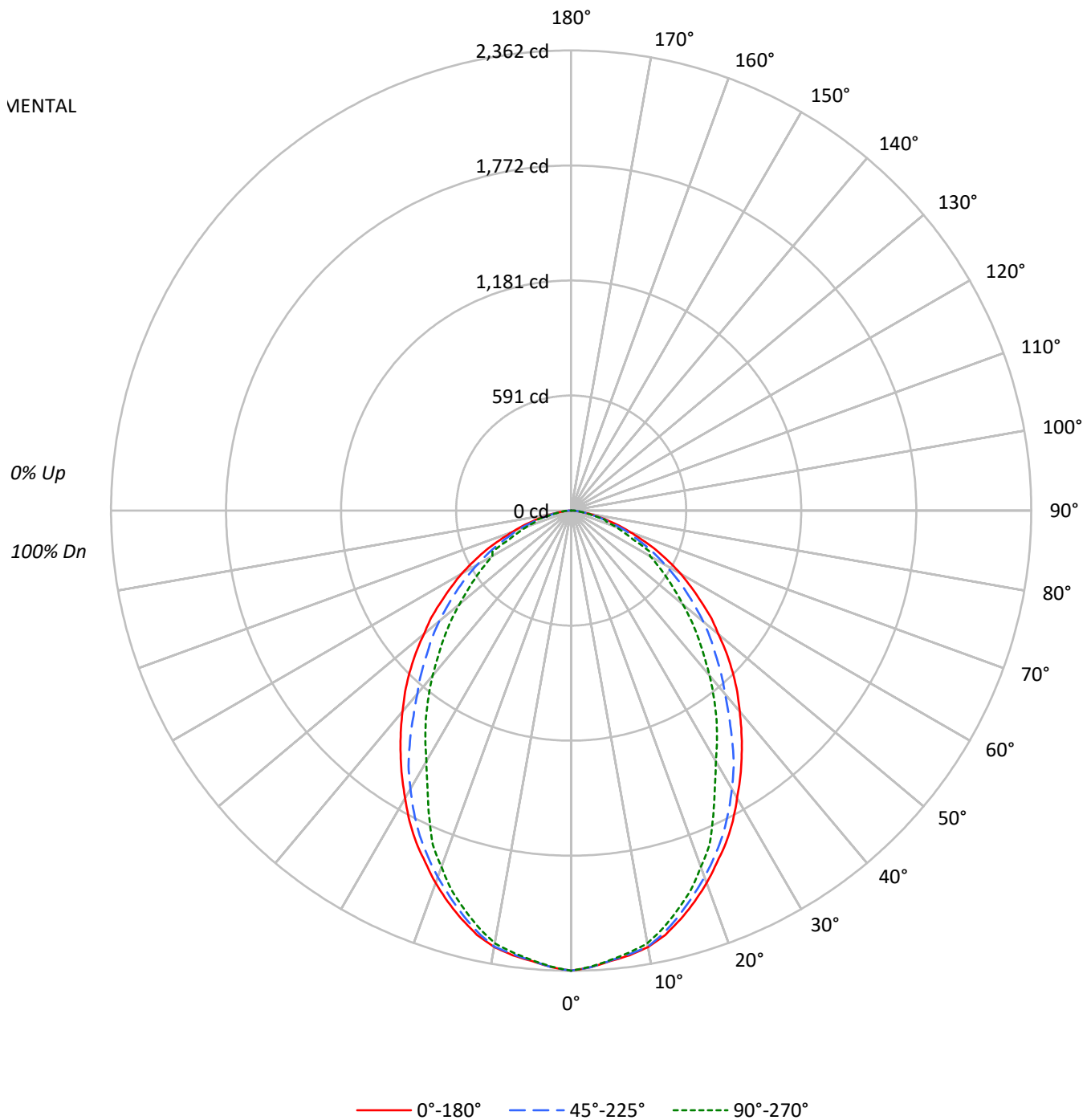
Lumens per Lamp: N/A  
Luminaire Lumens: 4637.0 lumens  
Efficiency: N/A  
Efficacy: 99.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 46.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	3178	3178	3178
5°	3135	3131	3128
10°	3108	3104	3082
15°	3024	2993	2952
20°	2913	2866	2788
25°	2793	2732	2562
30°	2647	2562	2308
35°	2507	2368	2135
40°	2364	2158	1942
45°	2229	1995	1756
50°	2063	1852	1566
55°	1909	1678	1403
60°	1749	1499	1256
65°	1539	1313	1113
70°	1268	1149	945
75°	1008	880	923
80°	677	635	593
85°	421	506	590

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2229 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	219.9	4.7
10°-20°	603.4	13.0
20°-30°	835.4	18.0
30°-40°	890.8	19.2
40°-50°	812.7	17.5
50°-60°	636.6	13.7
60°-70°	414.9	8.9
70°-80°	183.8	4.0
80°-90°	39.5	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°	1658.7	35.8
0°-40°	2549.5	55.0
0°-60°	3998.8	86.2
0°-90°	4637.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4637.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2362	2362	2362	2362	2362	
5°	2321	2318	2318	2316	2316	220
15°	2171	2171	2149	2127	2119	610
25°	1881	1870	1840	1775	1726	864
35°	1526	1516	1442	1333	1300	954
45°	1172	1147	1049	961	923	902
55°	814	789	715	631	598	730
65°	483	456	412	420	350	476
75°	194	180	169	161	178	208
85°	27	30	33	36	38	38
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2362.0	2362.0	2362.0	2362.0	2362.0
2.5°	2345.6	2345.6	2345.6	2342.9	2342.9
5°	2321.1	2318.3	2318.3	2315.6	2315.6
7.5°	2302.0	2299.2	2296.5	2293.8	2288.3
10°	2274.6	2274.6	2271.9	2258.3	2255.5
12.5°	2231.0	2228.2	2217.3	2198.2	2192.7
15°	2170.9	2170.9	2149.0	2127.2	2119.0
17.5°	2105.3	2102.6	2075.3	2053.5	2042.5
20°	2034.3	2028.9	2001.6	1966.1	1947.0
22.5°	1955.2	1955.2	1922.4	1876.0	1856.9
25°	1881.4	1870.5	1840.5	1774.9	1725.8
27.5°	1796.8	1780.4	1747.6	1654.8	1597.4
30°	1703.9	1695.7	1649.3	1529.2	1485.5
32.5°	1616.6	1602.9	1553.7	1428.1	1392.6
35°	1526.4	1515.5	1441.8	1332.6	1299.8
37.5°	1436.3	1422.7	1329.8	1242.5	1201.5
40°	1346.2	1329.8	1228.8	1149.6	1105.9
42.5°	1261.6	1239.7	1141.4	1056.8	1007.6
45°	1171.5	1146.9	1048.6	961.2	923.0
47.5°	1081.3	1059.5	969.4	879.3	835.6
50°	985.8	966.7	884.7	794.6	748.2
52.5°	906.6	876.5	797.4	707.2	669.0
55°	813.7	789.2	715.4	630.8	598.0
57.5°	729.1	704.5	636.2	557.1	529.7
60°	649.9	614.4	557.1	488.8	466.9
62.5°	562.5	535.2	486.1	428.7	456.0
65°	483.3	456.0	412.3	420.5	349.5
67.5°	395.9	382.3	344.1	305.8	294.9
70°	322.2	305.8	292.2	251.2	240.3
72.5°	256.7	240.3	221.2	199.3	191.1
75°	193.9	180.2	169.3	161.1	177.5
77.5°	133.8	128.3	120.1	112.0	109.2
80°	87.4	84.7	81.9	79.2	76.5
82.5°	51.9	51.9	51.9	51.9	51.9
85°	27.3	30.0	32.8	35.5	38.2
87.5°	16.4	16.4	19.1	21.8	24.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)