

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: P561650

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-80-85-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561650  
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-12-4-LD4-2LO-50-UNV-80-85-EDD-90  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

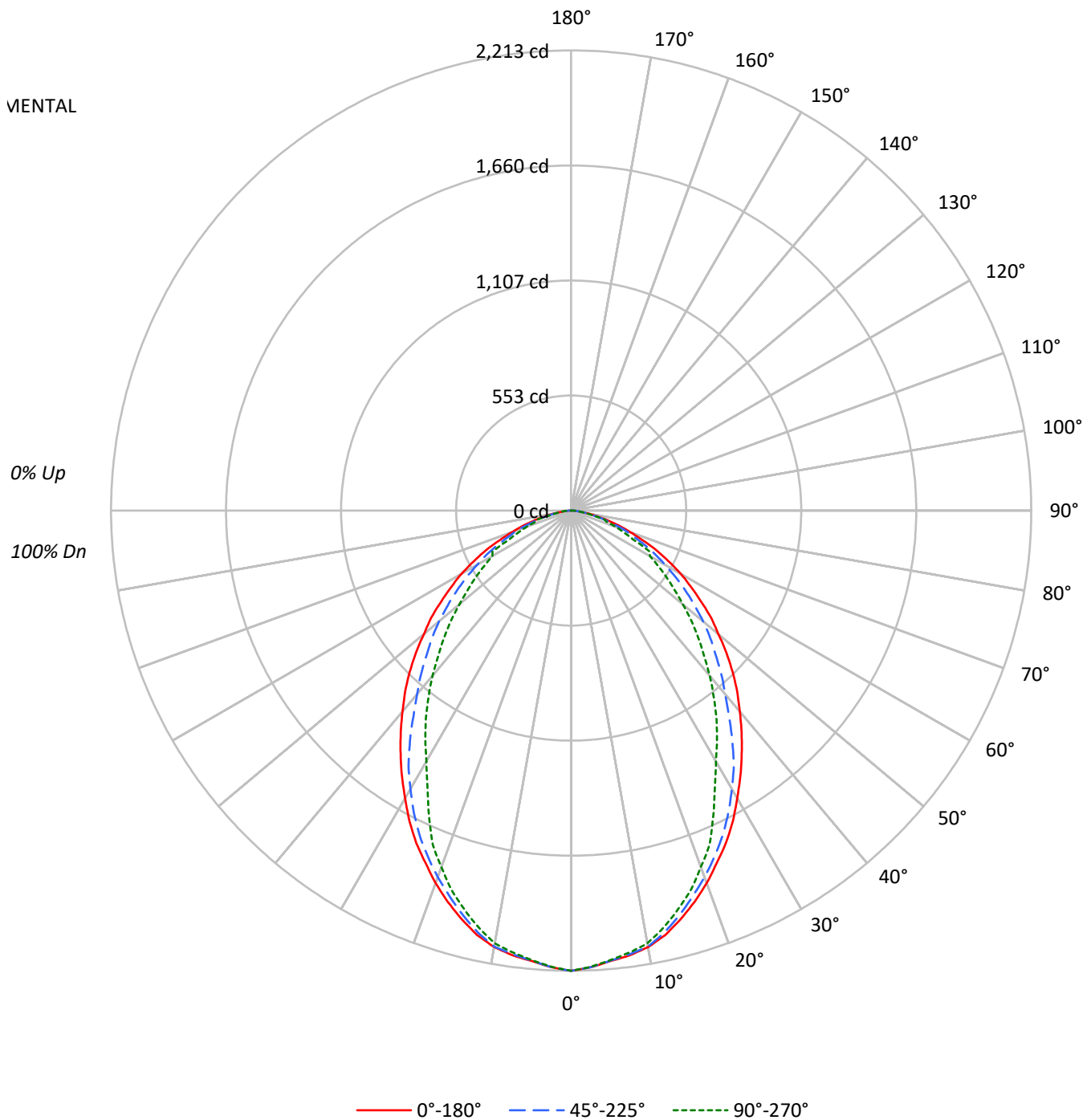
Lumens per Lamp: N/A  
Luminaire Lumens: 4345.0 lumens  
Efficiency: N/A  
Efficacy: 92.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 46.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	5956	5956	5956
5°	5875	5868	5861
10°	5824	5817	5775
15°	5667	5610	5532
20°	5459	5371	5224
25°	5235	5121	4801
30°	4961	4802	4325
35°	4699	4438	4001
40°	4431	4045	3640
45°	4177	3739	3291
50°	3867	3471	2935
55°	3577	3145	2629
60°	3278	2809	2355
65°	2884	2460	2085
70°	2375	2154	1772
75°	1889	1649	1729
80°	1269	1190	1110
85°	790	948	1105

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4177 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	206.0	4.7
10°-20°	565.4	13.0
20°-30°	782.8	18.0
30°-40°	834.7	19.2
40°-50°	761.5	17.5
50°-60°	596.6	13.7
60°-70°	388.8	8.9
70°-80°	172.3	4.0
80°-90°	37.0	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°	1554.2	35.8
0°-40°	2388.9	55.0
0°-60°	3747.0	86.2
0°-90°	4345.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4345.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2213	2213	2213	2213	2213	
5°	2175	2172	2172	2170	2170	206
15°	2034	2034	2014	1993	1986	572
25°	1763	1753	1725	1663	1617	809
35°	1430	1420	1351	1249	1218	894
45°	1098	1075	982	901	865	846
55°	762	740	670	591	560	684
65°	453	427	386	394	328	446
75°	182	169	159	151	166	195
85°	26	28	31	33	36	36
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2213.3	2213.3	2213.3	2213.3	2213.3
2.5°	2197.9	2197.9	2197.9	2195.4	2195.4
5°	2174.9	2172.3	2172.3	2169.8	2169.8
7.5°	2157.0	2154.4	2151.9	2149.3	2144.2
10°	2131.4	2131.4	2128.8	2116.1	2113.5
12.5°	2090.5	2087.9	2077.7	2059.8	2054.6
15°	2034.2	2034.2	2013.7	1993.2	1985.6
17.5°	1972.8	1970.2	1944.6	1924.2	1913.9
20°	1906.2	1901.1	1875.5	1842.3	1824.4
22.5°	1832.0	1832.0	1801.3	1757.8	1739.9
25°	1763.0	1752.7	1724.6	1663.2	1617.1
27.5°	1683.6	1668.3	1637.6	1550.6	1496.8
30°	1596.6	1589.0	1545.5	1432.9	1391.9
32.5°	1514.8	1502.0	1455.9	1338.2	1304.9
35°	1430.3	1420.1	1351.0	1248.7	1217.9
37.5°	1345.9	1333.1	1246.1	1164.2	1125.8
40°	1261.4	1246.1	1151.4	1077.2	1036.3
42.5°	1182.1	1161.7	1069.5	990.2	944.2
45°	1097.7	1074.7	982.5	900.7	864.8
47.5°	1013.2	992.8	908.3	823.9	783.0
50°	923.7	905.8	829.0	744.6	701.1
52.5°	849.5	821.3	747.1	662.7	626.9
55°	762.5	739.5	670.4	591.1	560.4
57.5°	683.2	660.1	596.2	522.0	496.4
60°	609.0	575.7	522.0	458.0	437.5
62.5°	527.1	501.5	455.5	401.7	427.3
65°	452.9	427.3	386.4	394.0	327.5
67.5°	371.0	358.2	322.4	286.6	276.3
70°	301.9	286.6	273.8	235.4	225.2
72.5°	240.5	225.2	207.3	186.8	179.1
75°	181.7	168.9	158.6	151.0	166.3
77.5°	125.4	120.3	112.6	104.9	102.3
80°	81.9	79.3	76.8	74.2	71.6
82.5°	48.6	48.6	48.6	48.6	48.6
85°	25.6	28.1	30.7	33.3	35.8
87.5°	15.4	15.4	17.9	20.5	23.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)