

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: P561527

Luminaire Tested: FSR-12-4-LD4-2LO-35-UNV-80-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561527  
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-35-UNV-80-87-EDD  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

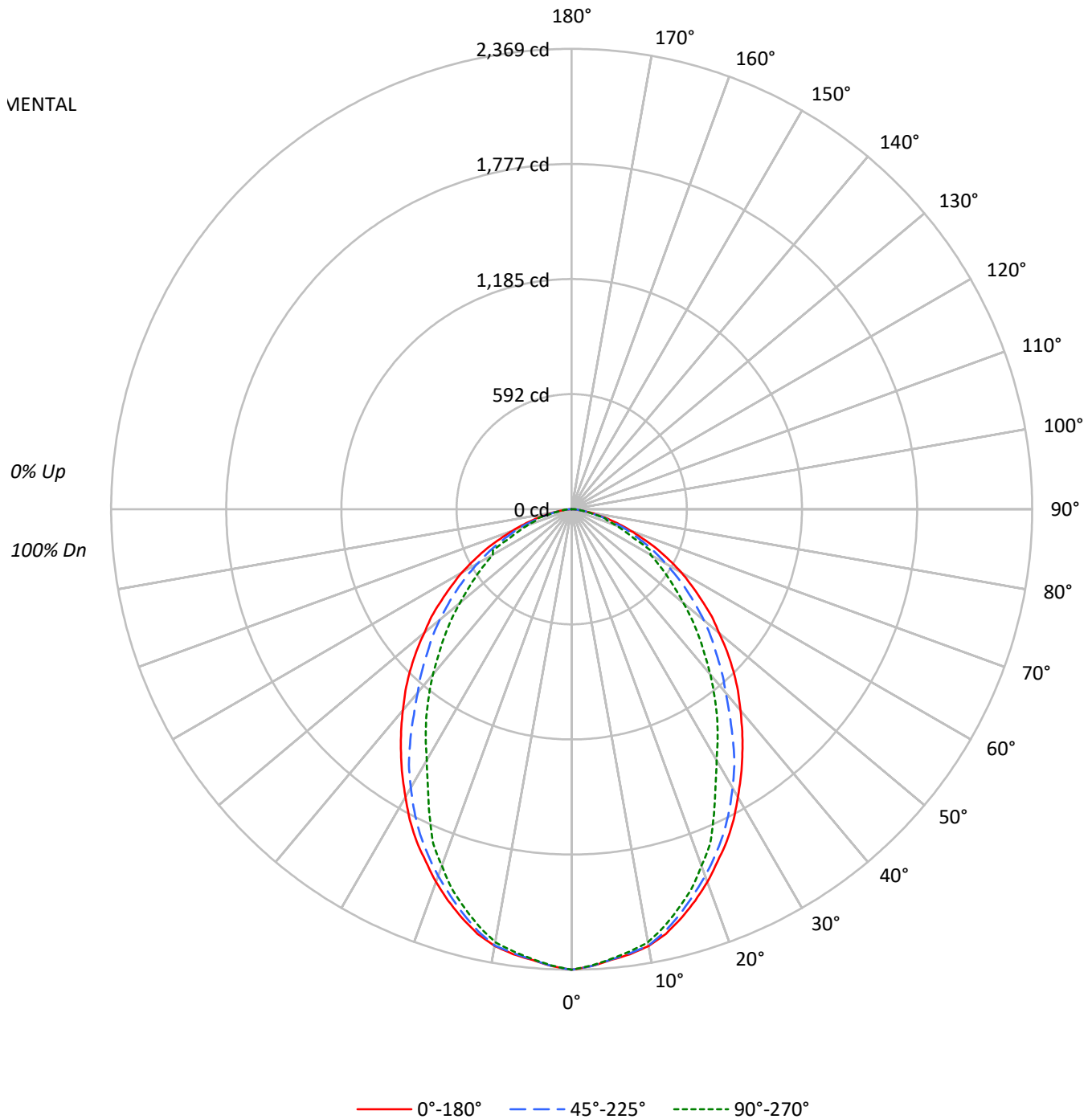
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4651.0 lumens  
Efficiency: N/A  
Efficacy: 99.4 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	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°	6375	6375	6375
5°	6289	6281	6274
10°	6234	6227	6182
15°	6066	6005	5921
20°	5843	5749	5592
25°	5603	5481	5140
30°	5311	5140	4630
35°	5030	4751	4283
40°	4743	4330	3897
45°	4472	4002	3523
50°	4139	3715	3142
55°	3829	3367	2814
60°	3508	3007	2521
65°	3087	2634	2232
70°	2543	2306	1896
75°	2022	1765	1851
80°	1358	1274	1189
85°	846	1016	1183

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4472 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	220.5	4.7
10°-20°	605.2	13.0
20°-30°	837.9	18.0
30°-40°	893.5	19.2
40°-50°	815.1	17.5
50°-60°	638.6	13.7
60°-70°	416.2	8.9
70°-80°	184.4	4.0
80°-90°	39.6	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°	1663.7	35.8
0°-40°	2557.2	55.0
0°-60°	4010.8	86.2
0°-90°	4651.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4651.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2369	2369	2369	2369	2369	
5°	2328	2325	2325	2323	2323	221
15°	2177	2177	2156	2134	2125	612
25°	1887	1876	1846	1780	1731	866
35°	1531	1520	1446	1337	1304	957
45°	1175	1150	1052	964	926	905
55°	816	792	718	633	600	732
65°	485	457	414	422	351	478
75°	194	181	170	162	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°	2369.2	2369.2	2369.2	2369.2	2369.2
2.5°	2352.7	2352.7	2352.7	2350.0	2350.0
5°	2328.1	2325.3	2325.3	2322.6	2322.6
7.5°	2308.9	2306.2	2303.4	2300.7	2295.2
10°	2281.5	2281.5	2278.8	2265.1	2262.3
12.5°	2237.7	2235.0	2224.0	2204.8	2199.3
15°	2177.4	2177.4	2155.5	2133.6	2125.4
17.5°	2111.7	2109.0	2081.6	2059.7	2048.7
20°	2040.5	2035.0	2007.6	1972.0	1952.8
22.5°	1961.1	1961.1	1928.2	1881.6	1862.5
25°	1887.1	1876.2	1846.0	1780.3	1731.0
27.5°	1802.2	1785.8	1752.9	1659.8	1602.3
30°	1709.1	1700.9	1654.3	1533.8	1490.0
32.5°	1621.4	1607.7	1558.4	1432.4	1396.8
35°	1531.1	1520.1	1446.1	1336.6	1303.7
37.5°	1440.7	1427.0	1333.8	1246.2	1205.1
40°	1350.3	1333.8	1232.5	1153.1	1109.3
42.5°	1265.4	1243.5	1144.9	1060.0	1010.7
45°	1175.0	1150.3	1051.7	964.1	925.8
47.5°	1084.6	1062.7	972.3	881.9	838.1
50°	988.7	969.6	887.4	797.0	750.5
52.5°	909.3	879.2	799.8	709.4	671.0
55°	816.2	791.5	717.6	632.7	599.8
57.5°	731.3	706.6	638.2	558.7	531.3
60°	651.9	616.3	558.7	490.3	468.4
62.5°	564.2	536.8	487.5	430.0	457.4
65°	484.8	457.4	413.6	421.8	350.6
67.5°	397.1	383.4	345.1	306.8	295.8
70°	323.2	306.8	293.1	252.0	241.0
72.5°	257.5	241.0	221.9	199.9	191.7
75°	194.5	180.8	169.8	161.6	178.0
77.5°	134.2	128.7	120.5	112.3	109.6
80°	87.6	84.9	82.2	79.4	76.7
82.5°	52.0	52.0	52.0	52.0	52.0
85°	27.4	30.1	32.9	35.6	38.3
87.5°	16.4	16.4	19.2	21.9	24.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)