

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: P561589

Luminaire Tested: FSR-12-4-LD4-2LO-40-UNV-80-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561589  
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-40-UNV-80-86-EDD  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

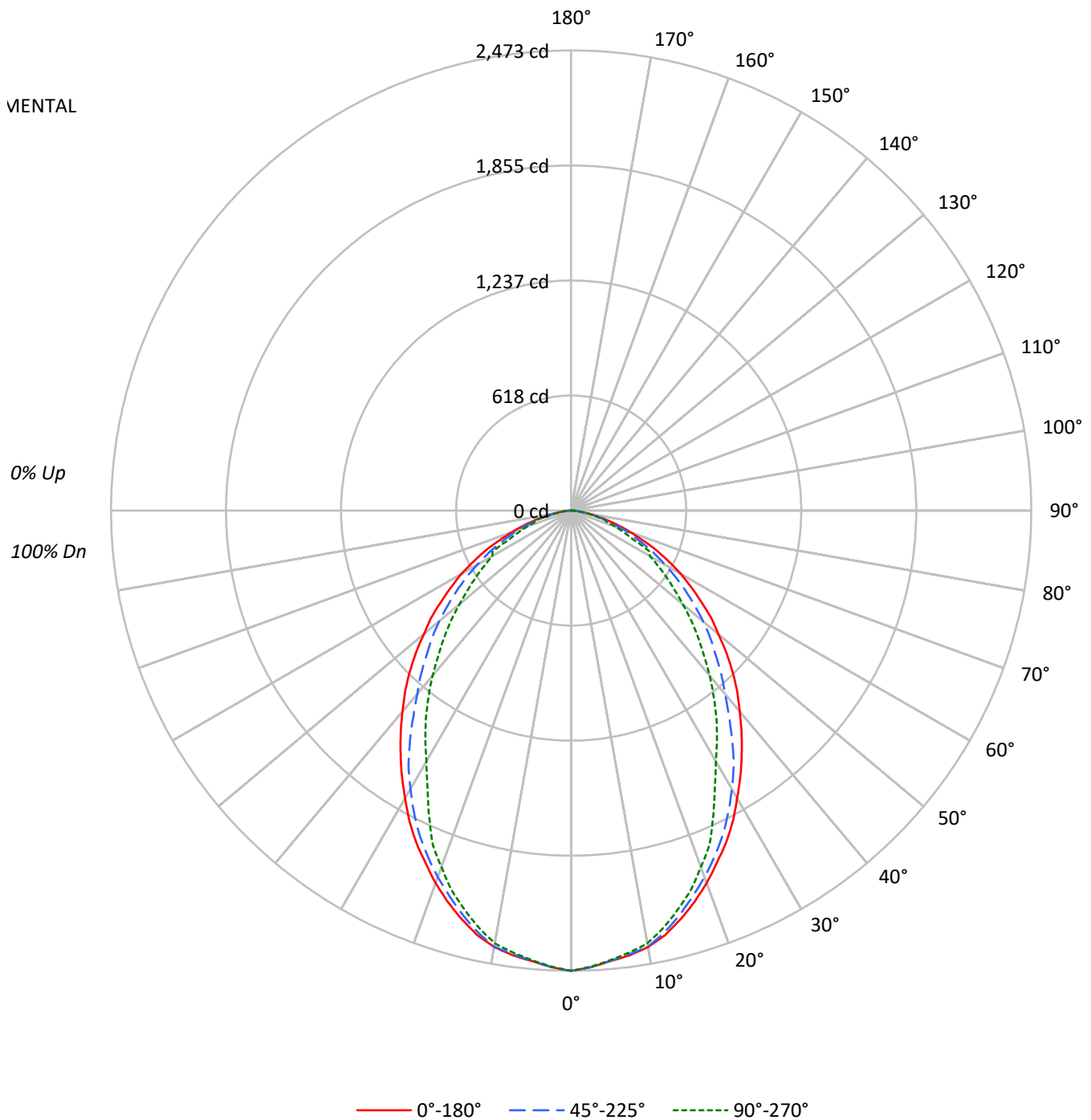
Lumens per Lamp: N/A  
Luminaire Lumens: 4855.0 lumens  
Efficiency: N/A  
Efficacy: 103.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 46.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	6655	6655	6655
5°	6565	6557	6549
10°	6508	6500	6453
15°	6332	6269	6181
20°	6100	6001	5838
25°	5849	5722	5365
30°	5543	5366	4833
35°	5250	4959	4471
40°	4951	4520	4067
45°	4668	4178	3678
50°	4321	3878	3280
55°	3997	3514	2937
60°	3662	3139	2631
65°	3223	2749	2330
70°	2655	2407	1980
75°	2111	1843	1932
80°	1418	1330	1241
85°	883	1059	1235

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4668 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	230.2	4.7
10°-20°	631.8	13.0
20°-30°	874.7	18.0
30°-40°	932.7	19.2
40°-50°	850.9	17.5
50°-60°	666.6	13.7
60°-70°	434.5	8.9
70°-80°	192.5	4.0
80°-90°	41.3	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°	1736.7	35.8
0°-40°	2669.3	55.0
0°-60°	4186.8	86.2
0°-90°	4855.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4855.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2473	2473	2473	2473	2473	
5°	2430	2427	2427	2424	2424	231
15°	2273	2273	2250	2227	2219	639
25°	1970	1958	1927	1858	1807	904
35°	1598	1587	1510	1395	1361	999
45°	1226	1201	1098	1006	966	945
55°	852	826	749	660	626	764
65°	506	478	432	440	366	499
75°	203	189	177	169	186	218
85°	29	31	34	37	40	40
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2473.1	2473.1	2473.1	2473.1	2473.1
2.5°	2455.9	2455.9	2455.9	2453.1	2453.1
5°	2430.2	2427.3	2427.3	2424.5	2424.5
7.5°	2410.2	2407.3	2404.5	2401.6	2395.9
10°	2381.6	2381.6	2378.7	2364.4	2361.6
12.5°	2335.8	2333.0	2321.5	2301.5	2295.8
15°	2272.9	2272.9	2250.1	2227.2	2218.6
17.5°	2204.3	2201.5	2172.9	2150.0	2138.6
20°	2130.0	2124.3	2095.7	2058.5	2038.5
22.5°	2047.1	2047.1	2012.8	1964.2	1944.1
25°	1969.9	1958.4	1927.0	1858.4	1806.9
27.5°	1881.3	1864.1	1829.8	1732.6	1672.5
30°	1784.0	1775.5	1726.9	1601.1	1555.3
32.5°	1692.6	1678.3	1626.8	1495.3	1458.1
35°	1598.2	1586.8	1509.6	1395.2	1360.9
37.5°	1503.9	1489.6	1392.4	1300.9	1258.0
40°	1409.5	1392.4	1286.6	1203.7	1157.9
42.5°	1320.9	1298.0	1195.1	1106.4	1055.0
45°	1226.5	1200.8	1097.9	1006.4	966.4
47.5°	1132.2	1109.3	1015.0	920.6	874.9
50°	1032.1	1012.1	926.3	832.0	783.4
52.5°	949.2	917.8	834.8	740.5	700.5
55°	852.0	826.3	749.1	660.4	626.1
57.5°	763.4	737.6	666.2	583.2	554.7
60°	680.5	643.3	583.2	511.8	488.9
62.5°	589.0	560.4	508.9	448.9	477.5
65°	506.1	477.5	431.7	440.3	366.0
67.5°	414.6	400.3	360.2	320.2	308.8
70°	337.4	320.2	305.9	263.0	251.6
72.5°	268.8	251.6	231.6	208.7	200.1
75°	203.0	188.7	177.3	168.7	185.8
77.5°	140.1	134.4	125.8	117.2	114.4
80°	91.5	88.6	85.8	82.9	80.1
82.5°	54.3	54.3	54.3	54.3	54.3
85°	28.6	31.4	34.3	37.2	40.0
87.5°	17.2	17.2	20.0	22.9	25.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)