

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: P561268

Luminaire Tested: FSR-12-4-LD4-1STD-50-UNV-80-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561268  
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-LD4-1STD-50-UNV-80-86-EDD-90  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

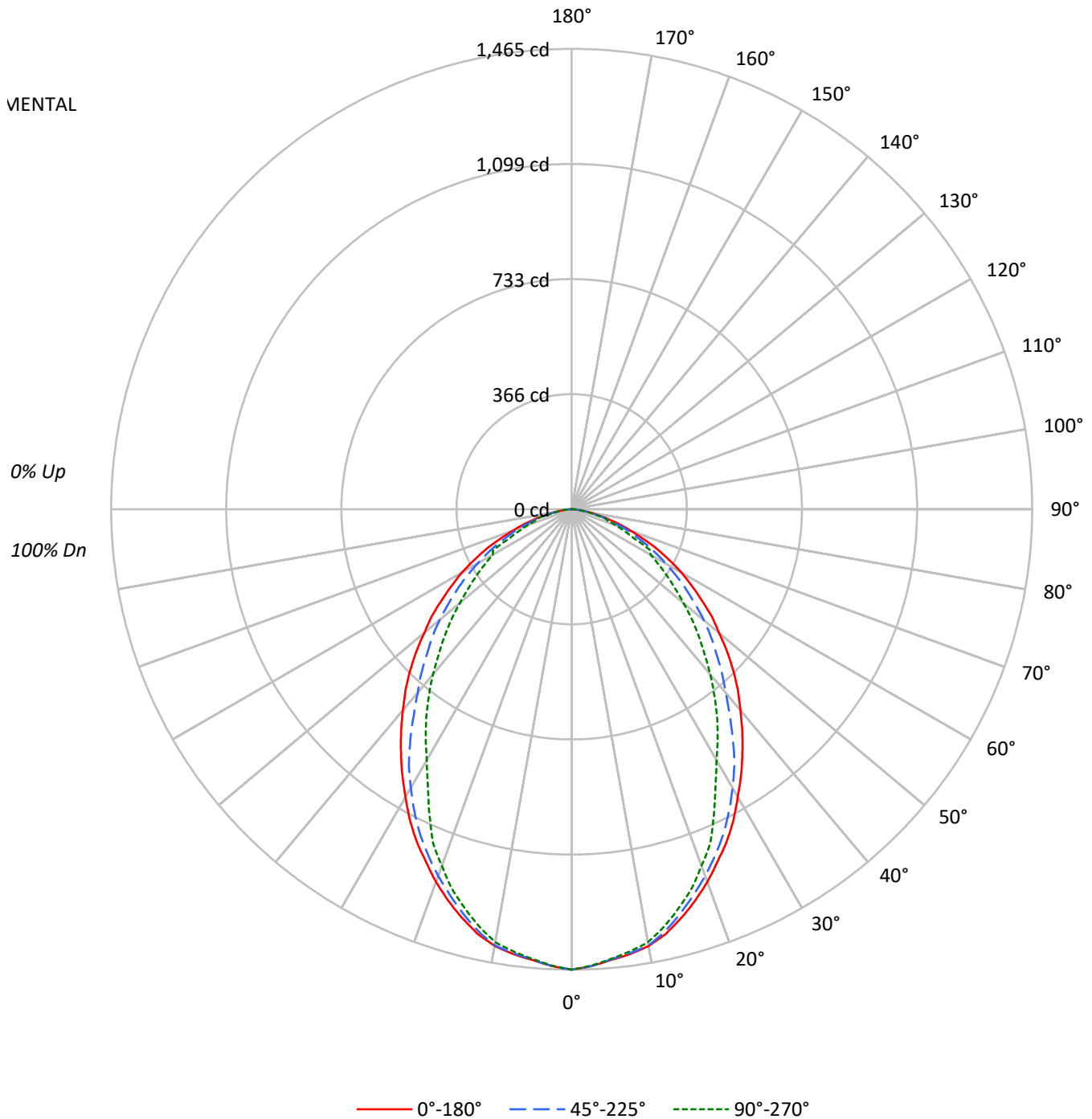
Lumens per Lamp: N/A  
Luminaire Lumens: 2876.0 lumens  
Efficiency: N/A  
Efficacy: 86.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	3942	3942	3942
5°	3889	3884	3880
10°	3855	3850	3822
15°	3751	3713	3662
20°	3613	3555	3458
25°	3465	3389	3178
30°	3284	3179	2863
35°	3110	2938	2648
40°	2933	2677	2409
45°	2765	2475	2178
50°	2560	2297	1943
55°	2368	2082	1740
60°	2169	1859	1559
65°	1909	1628	1380
70°	1572	1426	1172
75°	1250	1092	1145
80°	840	787	735
85°	522	627	732

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2765 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	136.4	4.7
10°-20°	374.3	13.0
20°-30°	518.1	18.0
30°-40°	552.5	19.2
40°-50°	504.0	17.5
50°-60°	394.9	13.7
60°-70°	257.4	8.9
70°-80°	114.0	4.0
80°-90°	24.5	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°	1028.8	35.8
0°-40°	1581.2	55.0
0°-60°	2480.1	86.2
0°-90°	2876.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2876.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1465	1465	1465	1465	1465	
5°	1440	1438	1438	1436	1436	137
15°	1346	1346	1333	1319	1314	379
25°	1167	1160	1142	1101	1070	536
35°	947	940	894	826	806	592
45°	727	711	650	596	572	560
55°	505	490	444	391	371	453
65°	300	283	256	261	217	295
75°	120	112	105	100	110	129
85°	17	19	20	22	24	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1465.0	1465.0	1465.0	1465.0	1465.0
2.5°	1454.8	1454.8	1454.8	1453.1	1453.1
5°	1439.6	1437.9	1437.9	1436.2	1436.2
7.5°	1427.7	1426.0	1424.3	1422.7	1419.3
10°	1410.8	1410.8	1409.1	1400.6	1398.9
12.5°	1383.7	1382.0	1375.2	1363.4	1360.0
15°	1346.4	1346.4	1332.9	1319.3	1314.3
17.5°	1305.8	1304.1	1287.2	1273.6	1266.8
20°	1261.8	1258.4	1241.4	1219.4	1207.6
22.5°	1212.6	1212.6	1192.3	1163.5	1151.7
25°	1166.9	1160.1	1141.5	1100.9	1070.4
27.5°	1114.4	1104.3	1083.9	1026.3	990.8
30°	1056.8	1051.7	1023.0	948.4	921.3
32.5°	1002.6	994.2	963.7	885.8	863.8
35°	946.7	940.0	894.2	826.5	806.2
37.5°	890.9	882.4	824.8	770.6	745.2
40°	835.0	824.8	762.1	713.0	685.9
42.5°	782.5	768.9	707.9	655.4	625.0
45°	726.6	711.3	650.4	596.2	572.4
47.5°	670.7	657.1	601.2	545.4	518.3
50°	611.4	599.5	548.7	492.8	464.1
52.5°	562.3	543.7	494.5	438.7	414.9
55°	504.7	489.5	443.7	391.2	370.9
57.5°	452.2	437.0	394.6	345.5	328.6
60°	403.1	381.1	345.5	303.2	289.6
62.5°	348.9	332.0	301.5	265.9	282.8
65°	299.8	282.8	255.7	260.8	216.8
67.5°	245.6	237.1	213.4	189.7	182.9
70°	199.8	189.7	181.2	155.8	149.0
72.5°	159.2	149.0	137.2	123.6	118.6
75°	120.2	111.8	105.0	99.9	110.1
77.5°	83.0	79.6	74.5	69.4	67.7
80°	54.2	52.5	50.8	49.1	47.4
82.5°	32.2	32.2	32.2	32.2	32.2
85°	16.9	18.6	20.3	22.0	23.7
87.5°	10.2	10.2	11.9	13.5	15.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)