

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: P561803

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-81-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561803  
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-LD4-2STD-40-UNV-81-94-EDD  
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

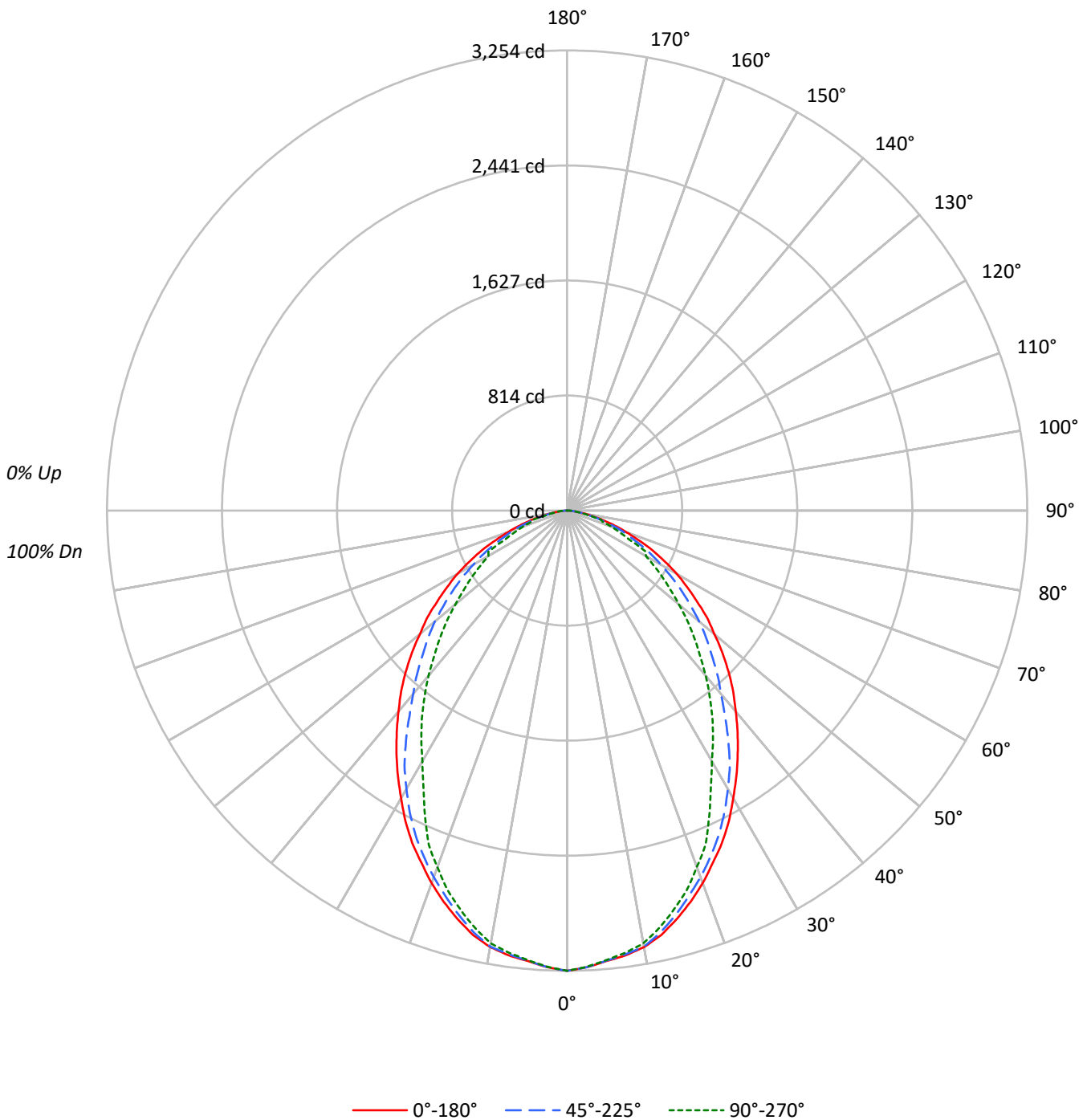
Lumens per Lamp: N/A  
Luminaire Lumens: 6389.0 lumens  
Efficiency: N/A  
Efficacy: 95.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	8758	8758	8758
5°	8639	8629	8618
10°	8564	8554	8492
15°	8333	8249	8134
20°	8027	7897	7682
25°	7697	7530	7060
30°	7295	7061	6360
35°	6909	6526	5883
40°	6516	5948	5353
45°	6143	5498	4840
50°	5686	5103	4316
55°	5260	4624	3866
60°	4819	4131	3463
65°	4240	3617	3067
70°	3493	3168	2605
75°	2777	2426	2543
80°	1866	1750	1632
85°	1161	1392	1627

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6143 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	302.9	4.7
10°-20°	831.4	13.0
20°-30°	1151.0	18.0
30°-40°	1227.3	19.2
40°-50°	1119.7	17.5
50°-60°	877.2	13.7
60°-70°	571.7	8.9
70°-80°	253.3	4.0
80°-90°	54.4	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°	2285.4	35.8
0°-40°	3512.7	55.0
0°-60°	5509.6	86.2
0°-90°	6389.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6389.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3254	3254	3254	3254	3254	
5°	3198	3194	3194	3190	3190	304
15°	2991	2991	2961	2931	2920	841
25°	2592	2577	2536	2446	2378	1190
35°	2103	2088	1986	1836	1791	1315
45°	1614	1580	1445	1324	1272	1243
55°	1121	1087	986	869	824	1006
65°	666	628	568	579	482	656
75°	267	248	233	222	245	286
85°	38	41	45	49	53	52
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3254.5	3254.5	3254.5	3254.5	3254.5
2.5°	3231.9	3231.9	3231.9	3228.1	3228.1
5°	3198.0	3194.3	3194.3	3190.5	3190.5
7.5°	3171.7	3167.9	3164.2	3160.4	3152.9
10°	3134.1	3134.1	3130.3	3111.5	3107.7
12.5°	3073.9	3070.1	3055.1	3028.7	3021.2
15°	2991.1	2991.1	2961.0	2930.9	2919.6
17.5°	2900.8	2897.0	2859.4	2829.3	2814.3
20°	2803.0	2795.5	2757.8	2708.9	2682.6
22.5°	2693.9	2693.9	2648.7	2584.8	2558.4
25°	2592.3	2577.2	2535.9	2445.6	2377.8
27.5°	2475.7	2453.1	2407.9	2280.0	2201.0
30°	2347.7	2336.4	2272.5	2106.9	2046.7
32.5°	2227.3	2208.5	2140.8	1967.7	1918.8
35°	2103.2	2088.1	1986.5	1836.0	1790.9
37.5°	1979.0	1960.2	1832.3	1711.9	1655.5
40°	1854.9	1832.3	1693.1	1584.0	1523.8
42.5°	1738.2	1708.1	1572.7	1456.0	1388.3
45°	1614.1	1580.2	1444.8	1324.4	1271.7
47.5°	1489.9	1459.8	1335.7	1211.5	1151.3
50°	1358.2	1331.9	1219.0	1094.9	1030.9
52.5°	1249.1	1207.7	1098.6	974.5	921.8
55°	1121.2	1087.3	985.7	869.1	824.0
57.5°	1004.6	970.7	876.6	767.5	729.9
60°	895.4	846.5	767.5	673.5	643.4
62.5°	775.1	737.4	669.7	590.7	628.3
65°	665.9	628.3	568.1	579.4	481.6
67.5°	545.5	526.7	474.1	421.4	406.3
70°	444.0	421.4	402.6	346.1	331.1
72.5°	353.7	331.1	304.8	274.7	263.4
75°	267.1	248.3	233.3	222.0	244.6
77.5°	184.4	176.8	165.5	154.3	150.5
80°	120.4	116.6	112.9	109.1	105.3
82.5°	71.5	71.5	71.5	71.5	71.5
85°	37.6	41.4	45.1	48.9	52.7
87.5°	22.6	22.6	26.3	30.1	33.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)