

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: P561761

Luminaire Tested: FSR-12-4-LD4-2STD-35-UNV-93-84-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561761  
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-35-UNV-93-84-EDD  
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

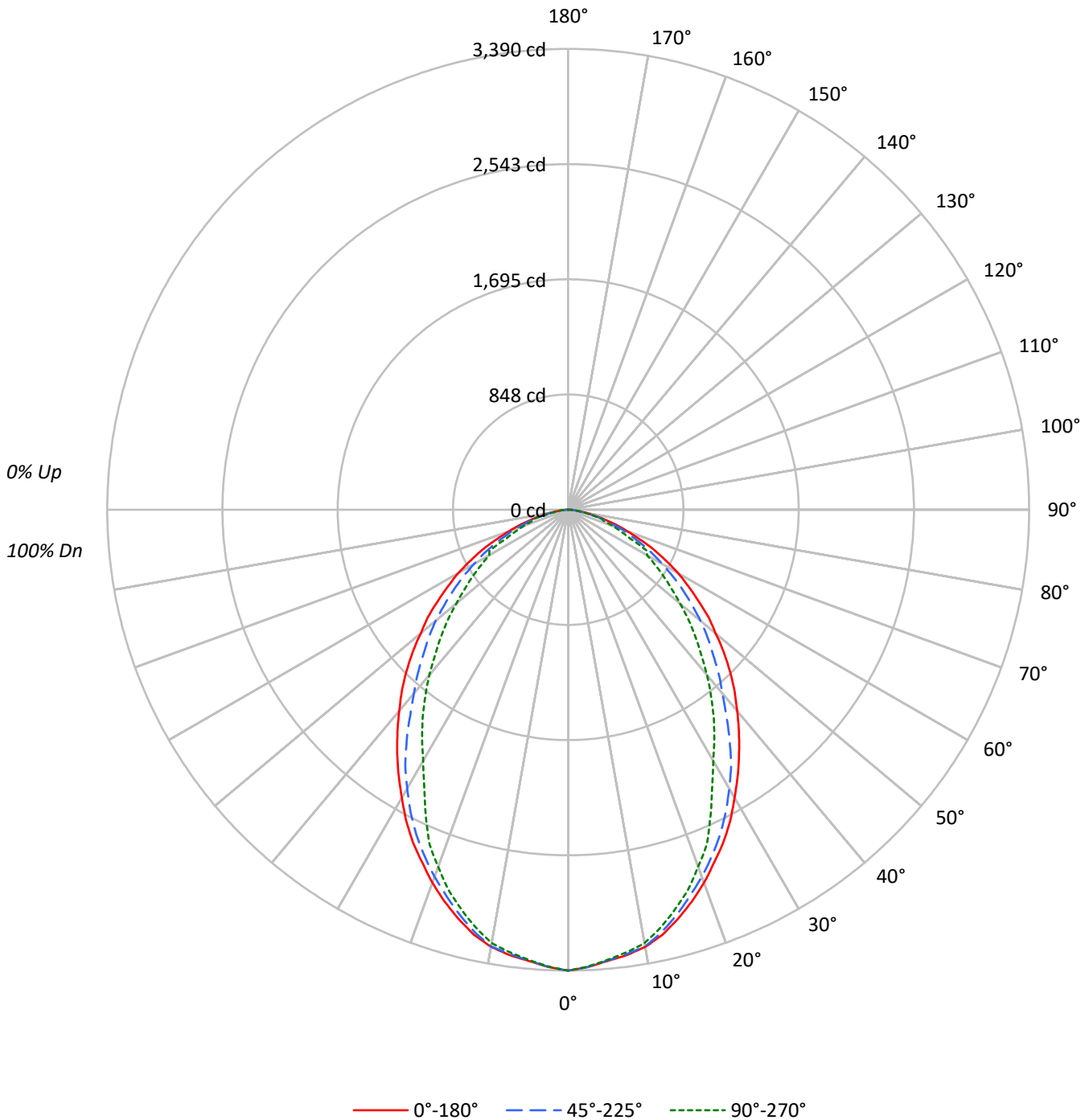
Lumens per Lamp: N/A  
Luminaire Lumens: 6656.0 lumens  
Efficiency: N/A  
Efficacy: 99.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	9124	9124	9124
5°	9000	8989	8978
10°	8922	8911	8847
15°	8681	8594	8474
20°	8362	8228	8003
25°	8019	7844	7355
30°	7600	7356	6626
35°	7198	6799	6129
40°	6788	6196	5576
45°	6399	5728	5042
50°	5924	5317	4496
55°	5480	4818	4027
60°	5021	4303	3608
65°	4418	3769	3195
70°	3639	3300	2714
75°	2894	2527	2649
80°	1943	1822	1700
85°	1210	1451	1695

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6399 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	315.6	4.7
10°-20°	866.2	13.0
20°-30°	1199.1	18.0
30°-40°	1278.6	19.2
40°-50°	1166.5	17.5
50°-60°	913.8	13.7
60°-70°	595.6	8.9
70°-80°	263.9	4.0
80°-90°	56.7	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°	2380.9	35.8
0°-40°	3659.5	55.0
0°-60°	5739.9	86.2
0°-90°	6656.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6656.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3390	3390	3390	3390	3390	
5°	3332	3328	3328	3324	3324	316
15°	3116	3116	3085	3053	3042	876
25°	2701	2685	2642	2548	2477	1240
35°	2191	2175	2070	1913	1866	1370
45°	1682	1646	1505	1380	1325	1295
55°	1168	1133	1027	905	858	1048
65°	694	655	592	604	502	684
75°	278	259	243	231	255	298
85°	39	43	47	51	55	54
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3390.5	3390.5	3390.5	3390.5	3390.5
2.5°	3367.0	3367.0	3367.0	3363.0	3363.0
5°	3331.7	3327.8	3327.8	3323.8	3323.8
7.5°	3304.2	3300.3	3296.4	3292.5	3284.6
10°	3265.0	3265.0	3261.1	3241.5	3237.6
12.5°	3202.3	3198.4	3182.7	3155.3	3147.5
15°	3116.1	3116.1	3084.7	3053.4	3041.6
17.5°	3022.0	3018.1	2978.9	2947.6	2931.9
20°	2920.1	2912.3	2873.1	2822.1	2794.7
22.5°	2806.5	2806.5	2759.4	2692.8	2665.3
25°	2700.6	2684.9	2641.8	2547.8	2477.2
27.5°	2579.1	2555.6	2508.6	2375.3	2293.0
30°	2445.8	2434.1	2367.5	2195.0	2132.3
32.5°	2320.4	2300.8	2230.3	2050.0	1999.0
35°	2191.1	2175.4	2069.6	1912.8	1865.7
37.5°	2061.7	2042.1	1908.9	1783.4	1724.6
40°	1932.4	1908.9	1763.8	1650.2	1587.4
42.5°	1810.9	1779.5	1638.4	1516.9	1446.3
45°	1681.5	1646.2	1505.1	1379.7	1324.8
47.5°	1552.2	1520.8	1391.5	1262.1	1199.4
50°	1415.0	1387.5	1270.0	1140.6	1074.0
52.5°	1301.3	1258.2	1144.5	1015.2	960.3
55°	1168.0	1132.8	1026.9	905.4	858.4
57.5°	1046.5	1011.3	913.3	799.6	760.4
60°	932.9	881.9	799.6	701.6	670.3
62.5°	807.4	768.2	697.7	615.4	654.6
65°	693.8	654.6	591.9	603.6	501.7
67.5°	568.3	548.7	493.9	439.0	423.3
70°	462.5	439.0	419.4	360.6	344.9
72.5°	368.4	344.9	317.5	286.1	274.4
75°	278.3	258.7	243.0	231.3	254.8
77.5°	192.1	184.2	172.5	160.7	156.8
80°	125.4	121.5	117.6	113.7	109.7
82.5°	74.5	74.5	74.5	74.5	74.5
85°	39.2	43.1	47.0	51.0	54.9
87.5°	23.5	23.5	27.4	31.4	35.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)