

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: P560036

Luminaire Tested: FSR-12-2-LD4-1STD-35-UNV-93-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560036  
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-12-2-LD4-1STD-35-UNV-93-86-EDD-90  
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

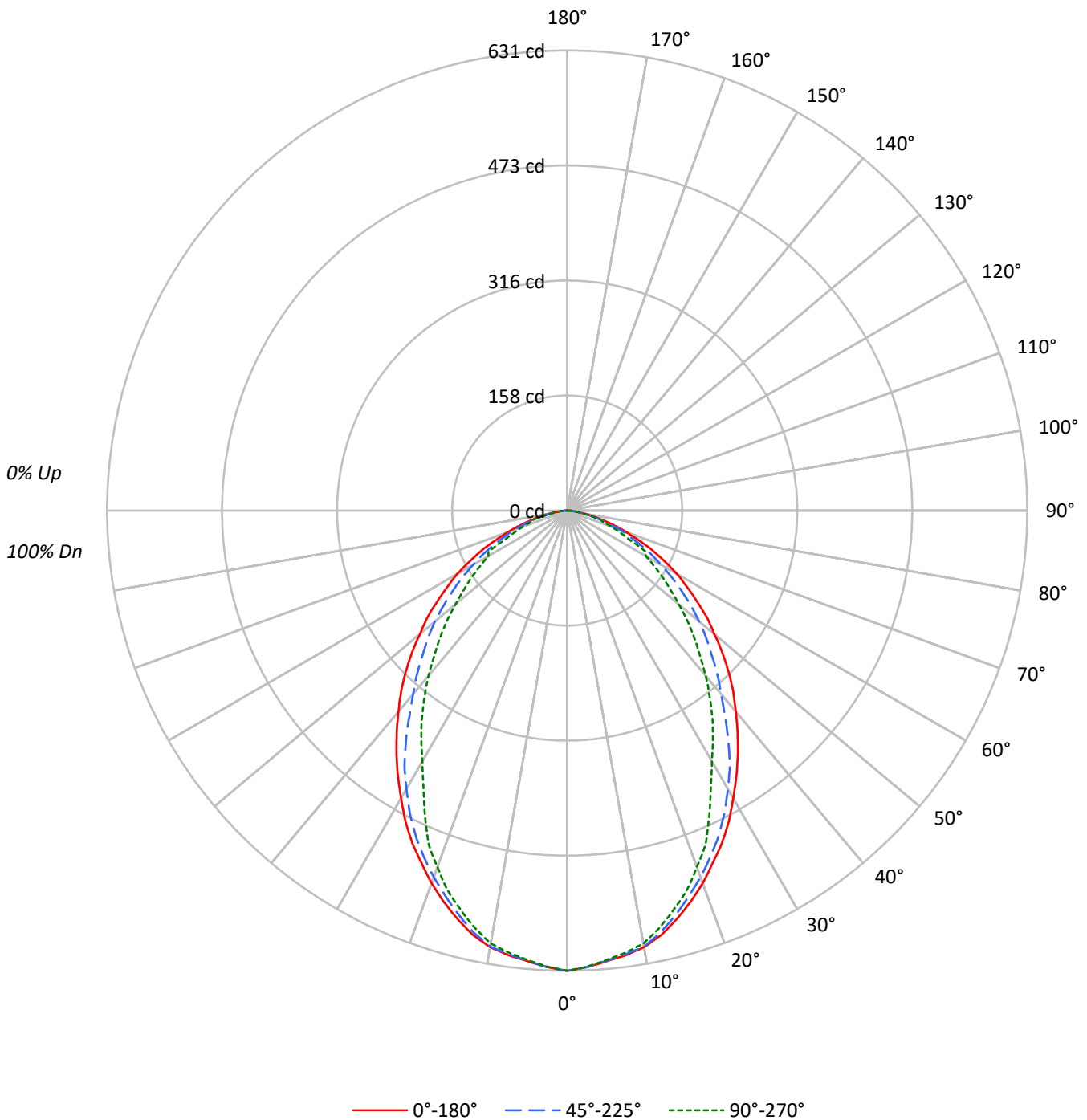
Lumens per Lamp: N/A  
Luminaire Lumens: 1239.0 lumens  
Efficiency: N/A  
Efficacy: 74.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	3397	3397	3397
5°	3351	3347	3343
10°	3322	3318	3294
15°	3232	3199	3155
20°	3113	3063	2979
25°	2985	2920	2738
30°	2829	2739	2467
35°	2680	2531	2282
40°	2527	2307	2076
45°	2382	2133	1877
50°	2205	1979	1674
55°	2040	1794	1499
60°	1870	1602	1343
65°	1644	1403	1189
70°	1355	1229	1010
75°	1077	940	986
80°	722	679	632
85°	451	543	630

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2382 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	58.8	4.7
10°-20°	161.2	13.0
20°-30°	223.2	18.0
30°-40°	238.0	19.2
40°-50°	217.1	17.5
50°-60°	170.1	13.7
60°-70°	110.9	8.9
70°-80°	49.1	4.0
80°-90°	10.6	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°	443.2	35.8
0°-40°	681.2	55.0
0°-60°	1068.5	86.2
0°-90°	1239.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1239.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	631	631	631	631	631	
5°	620	620	620	619	619	59
15°	580	580	574	568	566	163
25°	503	500	492	474	461	231
35°	408	405	385	356	347	255
45°	313	306	280	257	247	241
55°	217	211	191	168	160	195
65°	129	122	110	112	93	127
75°	52	48	45	43	47	56
85°	7	8	9	10	10	10
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	631.1	631.1	631.1	631.1	631.1
2.5°	626.8	626.8	626.8	626.0	626.0
5°	620.2	619.5	619.5	618.7	618.7
7.5°	615.1	614.3	613.6	612.9	611.4
10°	607.8	607.8	607.1	603.4	602.7
12.5°	596.1	595.4	592.5	587.4	585.9
15°	580.1	580.1	574.2	568.4	566.2
17.5°	562.5	561.8	554.5	548.7	545.8
20°	543.6	542.1	534.8	525.3	520.2
22.5°	522.4	522.4	513.7	501.3	496.1
25°	502.7	499.8	491.8	474.3	461.1
27.5°	480.1	475.7	467.0	442.2	426.8
30°	455.3	453.1	440.7	408.6	396.9
32.5°	431.9	428.3	415.2	381.6	372.1
35°	407.9	404.9	385.2	356.1	347.3
37.5°	383.8	380.1	355.3	332.0	321.0
40°	359.7	355.3	328.3	307.2	295.5
42.5°	337.1	331.3	305.0	282.4	269.2
45°	313.0	306.4	280.2	256.8	246.6
47.5°	288.9	283.1	259.0	234.9	223.3
50°	263.4	258.3	236.4	212.3	199.9
52.5°	242.2	234.2	213.1	189.0	178.8
55°	217.4	210.9	191.2	168.5	159.8
57.5°	194.8	188.2	170.0	148.8	141.5
60°	173.7	164.2	148.8	130.6	124.8
62.5°	150.3	143.0	129.9	114.6	121.8
65°	129.1	121.8	110.2	112.4	93.4
67.5°	105.8	102.1	91.9	81.7	78.8
70°	86.1	81.7	78.1	67.1	64.2
72.5°	68.6	64.2	59.1	53.3	51.1
75°	51.8	48.2	45.2	43.0	47.4
77.5°	35.8	34.3	32.1	29.9	29.2
80°	23.3	22.6	21.9	21.2	20.4
82.5°	13.9	13.9	13.9	13.9	13.9
85°	7.3	8.0	8.8	9.5	10.2
87.5°	4.4	4.4	5.1	5.8	6.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)