

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: P561890

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-93-85-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561890  
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-50-UNV-93-85-EDD-90  
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

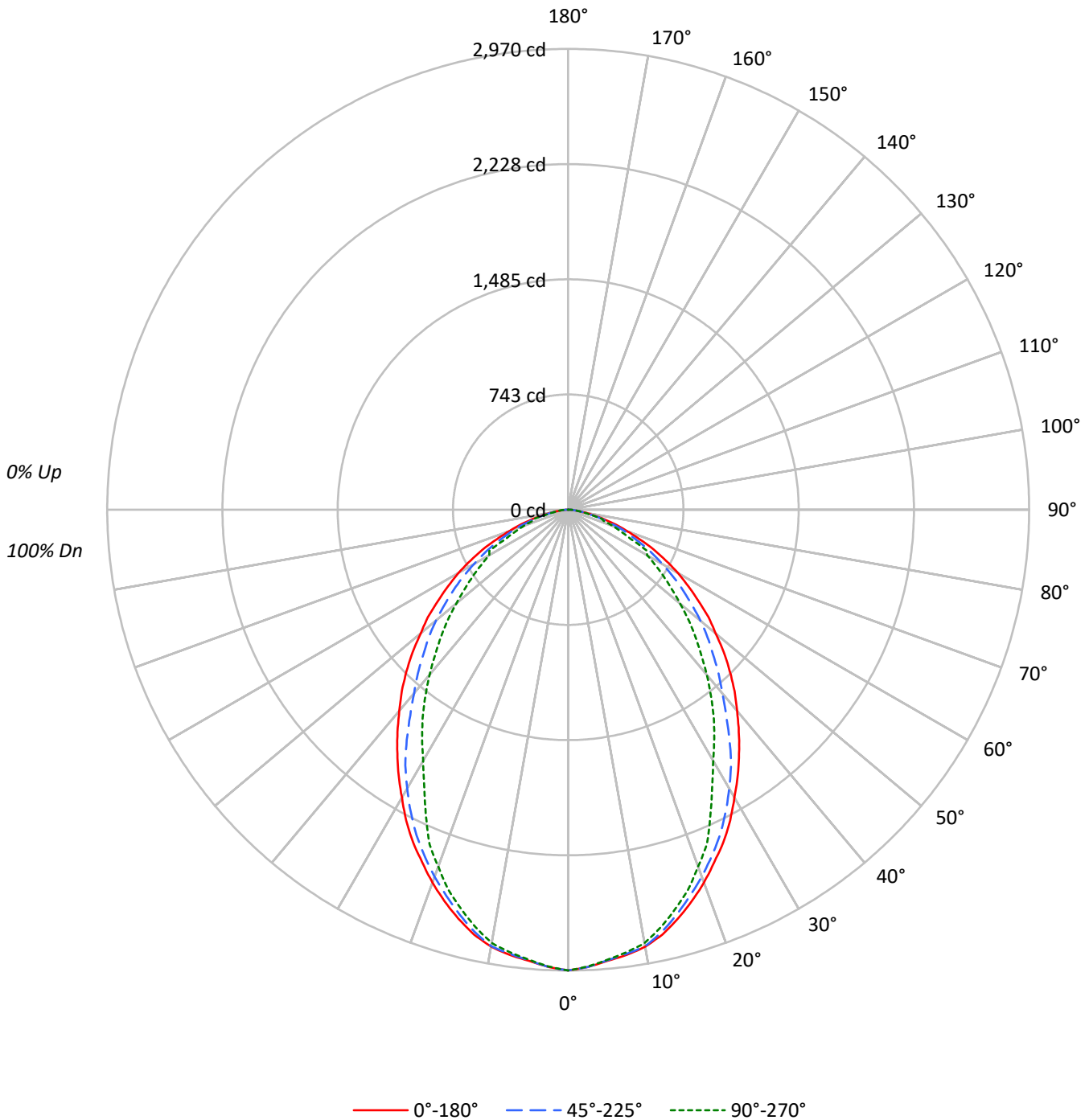
Lumens per Lamp: N/A  
Luminaire Lumens: 5830.0 lumens  
Efficiency: N/A  
Efficacy: 87.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	7991	7991	7991
5°	7883	7874	7864
10°	7815	7805	7749
15°	7604	7527	7422
20°	7324	7206	7010
25°	7024	6871	6442
30°	6657	6444	5803
35°	6305	5955	5368
40°	5946	5427	4884
45°	5605	5017	4416
50°	5189	4657	3938
55°	4800	4220	3528
60°	4398	3770	3160
65°	3869	3301	2798
70°	3187	2891	2377
75°	2535	2214	2321
80°	1703	1596	1489
85°	1059	1272	1485

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5605 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	276.4	4.7
10°-20°	758.7	13.0
20°-30°	1050.3	18.0
30°-40°	1120.0	19.2
40°-50°	1021.7	17.5
50°-60°	800.4	13.7
60°-70°	521.7	8.9
70°-80°	231.1	4.0
80°-90°	49.6	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°	2085.4	35.8
0°-40°	3205.4	55.0
0°-60°	5027.6	86.2
0°-90°	5830.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5830.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2970	2970	2970	2970	2970	
5°	2918	2915	2915	2911	2911	277
15°	2729	2729	2702	2674	2664	767
25°	2366	2352	2314	2232	2170	1086
35°	1919	1905	1813	1675	1634	1200
45°	1473	1442	1318	1208	1160	1134
55°	1023	992	900	793	752	918
65°	608	573	518	529	440	599
75°	244	227	213	203	223	261
85°	34	38	41	45	48	48
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2969.7	2969.7	2969.7	2969.7	2969.7
2.5°	2949.1	2949.1	2949.1	2945.7	2945.7
5°	2918.2	2914.8	2914.8	2911.4	2911.4
7.5°	2894.2	2890.8	2887.3	2883.9	2877.0
10°	2859.9	2859.9	2856.4	2839.3	2835.8
12.5°	2804.9	2801.5	2787.8	2763.7	2756.9
15°	2729.4	2729.4	2701.9	2674.5	2664.2
17.5°	2647.0	2643.6	2609.2	2581.8	2568.0
20°	2557.7	2550.9	2516.5	2471.9	2447.9
22.5°	2458.2	2458.2	2417.0	2358.6	2334.6
25°	2365.5	2351.7	2314.0	2231.6	2169.8
27.5°	2259.1	2238.5	2197.3	2080.5	2008.4
30°	2142.3	2132.0	2073.7	1922.6	1867.7
32.5°	2032.5	2015.3	1953.5	1795.6	1750.9
35°	1919.2	1905.4	1812.7	1675.4	1634.2
37.5°	1805.9	1788.7	1672.0	1562.1	1510.6
40°	1692.6	1672.0	1544.9	1445.4	1390.4
42.5°	1586.1	1558.7	1435.1	1328.7	1266.9
45°	1472.8	1441.9	1318.4	1208.5	1160.4
47.5°	1359.5	1332.1	1218.8	1105.5	1050.6
50°	1239.4	1215.4	1112.4	999.1	940.7
52.5°	1139.8	1102.1	1002.5	889.2	841.1
55°	1023.1	992.2	899.5	793.1	751.9
57.5°	916.7	885.8	799.9	700.4	666.0
60°	817.1	772.5	700.4	614.5	587.1
62.5°	707.2	672.9	611.1	539.0	573.3
65°	607.7	573.3	518.4	528.7	439.5
67.5°	497.8	480.6	432.6	384.5	370.8
70°	405.1	384.5	367.4	315.9	302.1
72.5°	322.7	302.1	278.1	250.6	240.3
75°	243.8	226.6	212.9	202.6	223.2
77.5°	168.2	161.4	151.1	140.8	137.3
80°	109.9	106.4	103.0	99.6	96.1
82.5°	65.2	65.2	65.2	65.2	65.2
85°	34.3	37.8	41.2	44.6	48.1
87.5°	20.6	20.6	24.0	27.5	30.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)