

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: P561370

Luminaire Tested: FSR-12-4-LD4-2HI-35-UNV-82-94-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561370  
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-LD4-2HI-35-UNV-82-94-EDD-90  
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

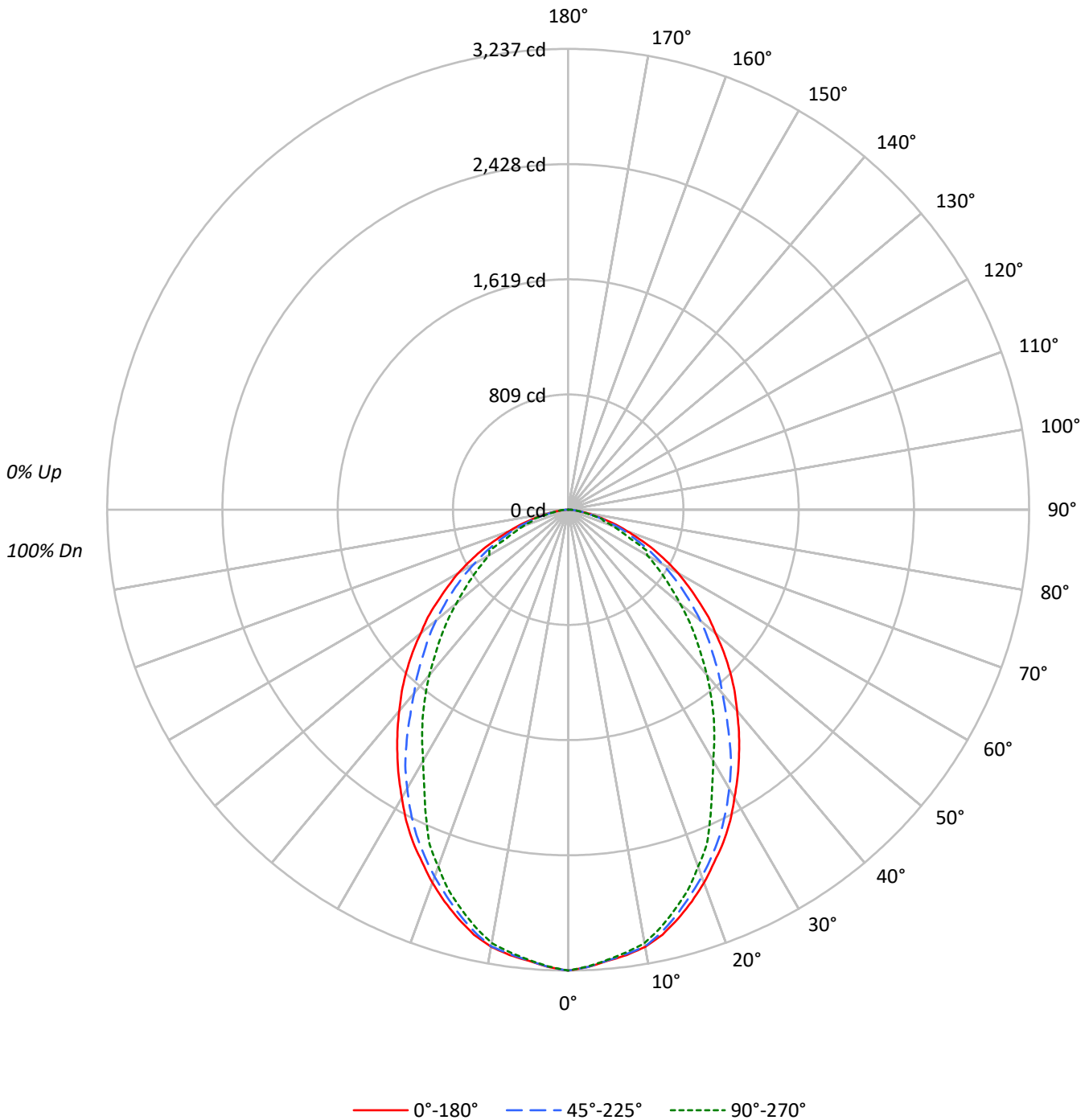
Lumens per Lamp: N/A  
Luminaire Lumens: 6355.0 lumens  
Efficiency: N/A  
Efficacy: 73.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	8711	8711	8711
5°	8593	8583	8572
10°	8518	8508	8447
15°	8289	8205	8091
20°	7984	7856	7641
25°	7656	7489	7023
30°	7256	7024	6326
35°	6872	6491	5852
40°	6481	5916	5324
45°	6110	5469	4814
50°	5656	5076	4293
55°	5232	4600	3845
60°	4794	4109	3444
65°	4218	3598	3050
70°	3474	3150	2591
75°	2763	2412	2530
80°	1857	1740	1624
85°	1155	1386	1618

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6110 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	301.3	4.7
10°-20°	827.0	13.0
20°-30°	1144.9	18.0
30°-40°	1220.8	19.2
40°-50°	1113.7	17.5
50°-60°	872.5	13.7
60°-70°	568.7	8.9
70°-80°	251.9	4.0
80°-90°	54.1	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°	2273.2	35.8
0°-40°	3494.0	55.0
0°-60°	5480.3	86.2
0°-90°	6355.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6355.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3237	3237	3237	3237	3237	
5°	3181	3177	3177	3174	3174	302
15°	2975	2975	2945	2915	2904	836
25°	2578	2564	2522	2432	2365	1184
35°	2092	2077	1976	1826	1781	1308
45°	1606	1572	1437	1317	1265	1237
55°	1115	1082	980	864	820	1000
65°	662	625	565	576	479	653
75°	266	247	232	221	243	285
85°	37	41	45	49	52	52
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3237.2	3237.2	3237.2	3237.2	3237.2
2.5°	3214.7	3214.7	3214.7	3211.0	3211.0
5°	3181.0	3177.3	3177.3	3173.5	3173.5
7.5°	3154.8	3151.1	3147.3	3143.6	3136.1
10°	3117.4	3117.4	3113.7	3094.9	3091.2
12.5°	3057.5	3053.8	3038.8	3012.6	3005.1
15°	2975.2	2975.2	2945.2	2915.3	2904.1
17.5°	2885.4	2881.6	2844.2	2814.3	2799.3
20°	2788.1	2780.6	2743.2	2694.5	2668.3
22.5°	2679.5	2679.5	2634.6	2571.0	2544.8
25°	2578.5	2563.5	2522.4	2432.5	2365.2
27.5°	2462.5	2440.0	2395.1	2267.9	2189.3
30°	2335.2	2324.0	2260.4	2095.7	2035.9
32.5°	2215.5	2196.8	2129.4	1957.3	1908.6
35°	2092.0	2077.0	1976.0	1826.3	1781.4
37.5°	1968.5	1949.8	1822.5	1702.8	1646.6
40°	1845.0	1822.5	1684.1	1575.5	1515.7
42.5°	1729.0	1699.0	1564.3	1448.3	1380.9
45°	1605.5	1571.8	1437.1	1317.3	1264.9
47.5°	1482.0	1452.0	1328.5	1205.0	1145.2
50°	1351.0	1324.8	1212.5	1089.0	1025.4
52.5°	1242.5	1201.3	1092.8	969.3	916.9
55°	1115.2	1081.5	980.5	864.5	819.6
57.5°	999.2	965.5	872.0	763.4	726.0
60°	890.7	842.0	763.4	669.9	639.9
62.5°	770.9	733.5	666.1	587.6	625.0
65°	662.4	625.0	565.1	576.3	479.0
67.5°	542.6	523.9	471.5	419.1	404.2
70°	441.6	419.1	400.4	344.3	329.3
72.5°	351.8	329.3	303.1	273.2	262.0
75°	265.7	247.0	232.0	220.8	243.3
77.5°	183.4	175.9	164.7	153.4	149.7
80°	119.8	116.0	112.3	108.5	104.8
82.5°	71.1	71.1	71.1	71.1	71.1
85°	37.4	41.2	44.9	48.7	52.4
87.5°	22.5	22.5	26.2	29.9	33.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)