

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: P561462

Luminaire Tested: FSR-12-4-LD4-2HI-50-UNV-80-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561462  
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-50-UNV-80-87-EDD-90  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

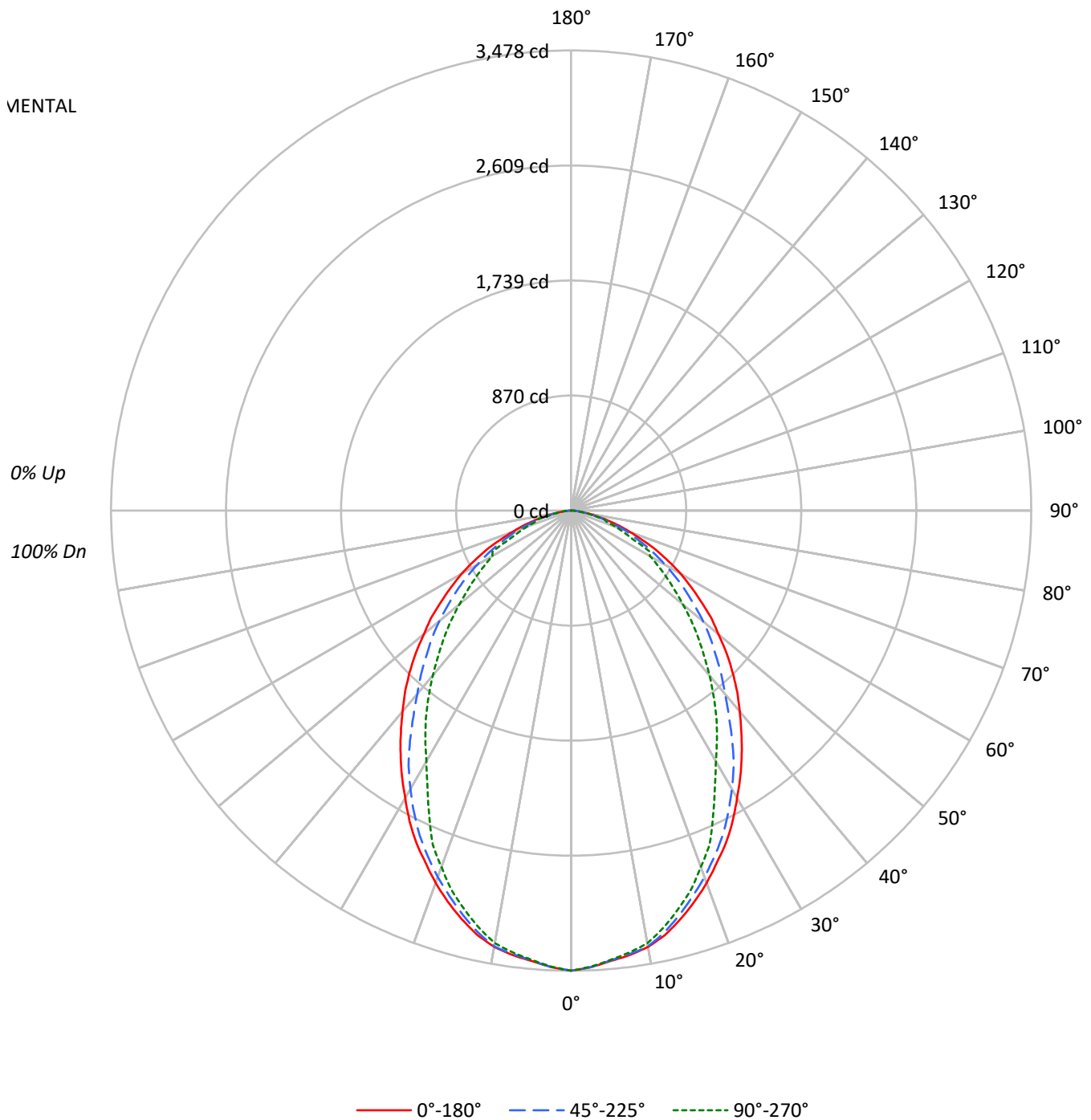
Lumens per Lamp: N/A  
Luminaire Lumens: 6827.0 lumens  
Efficiency: N/A  
Efficacy: 79.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	9358	9358	9358
5°	9231	9220	9209
10°	9151	9140	9074
15°	8904	8815	8691
20°	8577	8439	8209
25°	8225	8046	7544
30°	7795	7545	6796
35°	7383	6973	6287
40°	6962	6355	5720
45°	6564	5875	5171
50°	6076	5453	4612
55°	5621	4942	4131
60°	5149	4414	3700
65°	4531	3866	3277
70°	3733	3385	2784
75°	2967	2592	2717
80°	1994	1869	1745
85°	1241	1488	1738

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6564 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	323.7	4.7
10°-20°	888.4	13.0
20°-30°	1229.9	18.0
30°-40°	1311.5	19.2
40°-50°	1196.4	17.5
50°-60°	937.3	13.7
60°-70°	610.9	8.9
70°-80°	270.7	4.0
80°-90°	58.1	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°	2442.1	35.8
0°-40°	3753.6	55.0
0°-60°	5887.3	86.2
0°-90°	6827.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6827.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3478	3478	3478	3478	3478	
5°	3417	3413	3413	3409	3409	324
15°	3196	3196	3164	3132	3120	899
25°	2770	2754	2710	2613	2541	1272
35°	2247	2231	2123	1962	1914	1405
45°	1725	1688	1544	1415	1359	1329
55°	1198	1162	1053	929	880	1075
65°	712	671	607	619	515	701
75°	285	265	249	237	261	306
85°	40	44	48	52	56	56
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3477.6	3477.6	3477.6	3477.6	3477.6
2.5°	3453.5	3453.5	3453.5	3449.4	3449.4
5°	3417.3	3413.3	3413.3	3409.2	3409.2
7.5°	3389.1	3385.1	3381.1	3377.1	3369.0
10°	3348.9	3348.9	3344.9	3324.8	3320.8
12.5°	3284.6	3280.6	3264.5	3236.4	3228.3
15°	3196.2	3196.2	3164.0	3131.8	3119.8
17.5°	3099.7	3095.7	3055.4	3023.3	3007.2
20°	2995.1	2987.1	2946.9	2894.6	2866.5
22.5°	2878.6	2878.6	2830.3	2762.0	2733.8
25°	2770.0	2753.9	2709.7	2613.2	2540.8
27.5°	2645.4	2621.3	2573.0	2436.3	2351.9
30°	2508.7	2496.6	2428.3	2251.4	2187.1
32.5°	2380.0	2359.9	2287.6	2102.6	2050.4
35°	2247.4	2231.3	2122.7	1961.9	1913.7
37.5°	2114.7	2094.6	1957.9	1829.2	1768.9
40°	1982.0	1957.9	1809.1	1692.6	1628.2
42.5°	1857.4	1825.2	1680.5	1555.9	1483.5
45°	1724.7	1688.5	1543.8	1415.2	1358.9
47.5°	1592.0	1559.9	1427.2	1294.5	1230.2
50°	1451.3	1423.2	1302.6	1169.9	1101.6
52.5°	1334.7	1290.5	1173.9	1041.3	985.0
55°	1198.1	1161.9	1053.3	928.7	880.5
57.5°	1073.4	1037.2	936.7	820.1	779.9
60°	956.8	904.6	820.1	719.6	687.5
62.5°	828.2	788.0	715.6	631.2	671.4
65°	711.6	671.4	607.1	619.1	514.6
67.5°	582.9	562.8	506.6	450.3	434.2
70°	474.4	450.3	430.2	369.9	353.8
72.5°	377.9	353.8	325.6	293.5	281.4
75°	285.4	265.3	249.3	237.2	261.3
77.5°	197.0	189.0	176.9	164.8	160.8
80°	128.7	124.6	120.6	116.6	112.6
82.5°	76.4	76.4	76.4	76.4	76.4
85°	40.2	44.2	48.2	52.3	56.3
87.5°	24.1	24.1	28.1	32.2	36.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)