

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: P562921

Luminaire Tested: FSR-24-4-LD4-2STD-35-UNV-93-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562921  
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-24-4-LD4-2STD-35-UNV-93-88-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

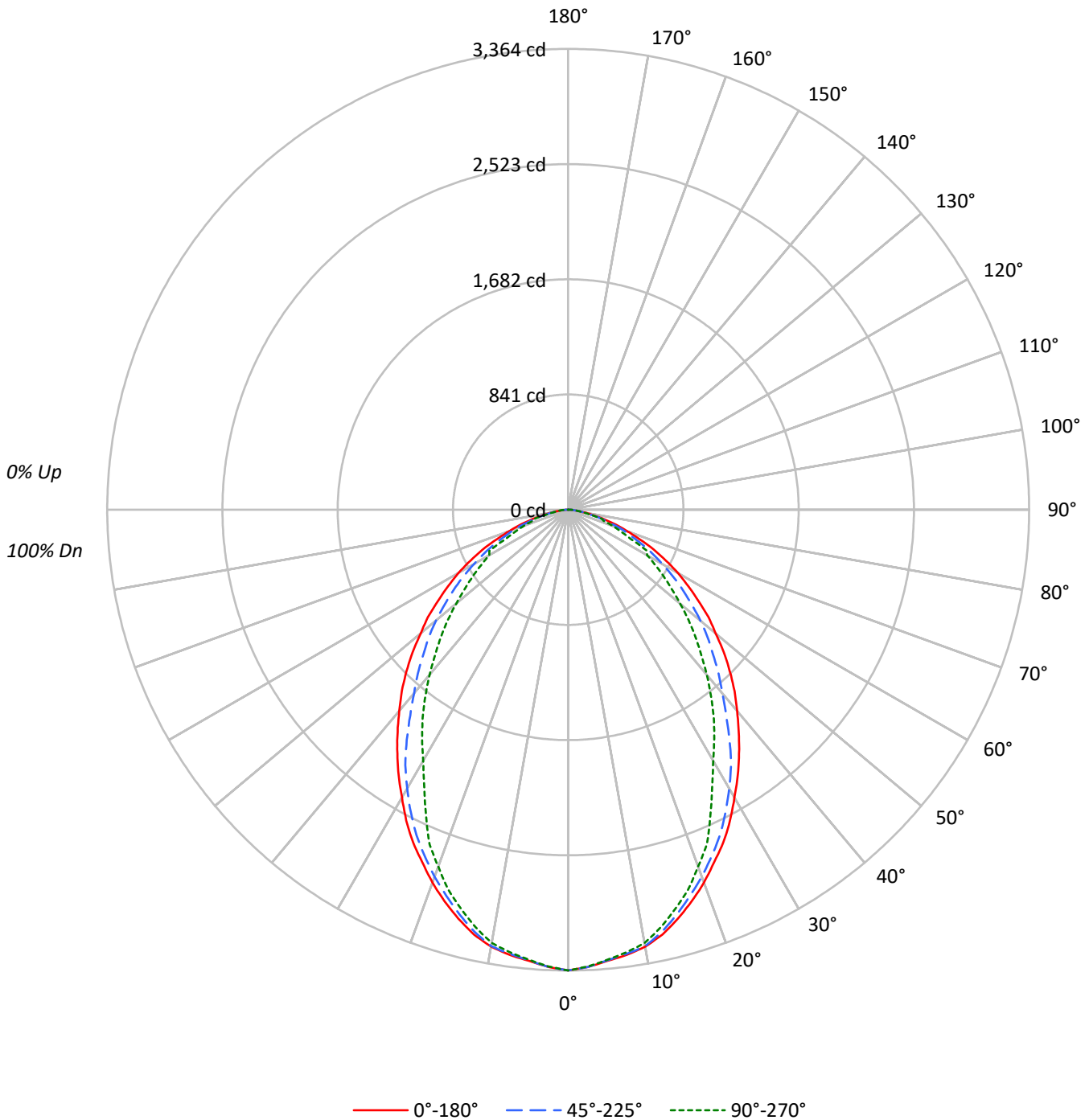
Lumens per Lamp: N/A  
Luminaire Lumens: 6603.0 lumens  
Efficiency: N/A  
Efficacy: 99.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4526	4526	4526
5°	4464	4459	4454
10°	4425	4420	4388
15°	4306	4263	4203
20°	4148	4081	3970
25°	3977	3891	3648
30°	3770	3649	3286
35°	3570	3372	3040
40°	3367	3073	2766
45°	3174	2841	2501
50°	2938	2637	2230
55°	2718	2390	1998
60°	2490	2134	1789
65°	2191	1869	1585
70°	1805	1637	1346
75°	1435	1253	1314
80°	964	904	844
85°	601	721	840

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3174 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	313.1	4.7
10°-20°	859.3	13.0
20°-30°	1189.6	18.0
30°-40°	1268.4	19.2
40°-50°	1157.2	17.5
50°-60°	906.6	13.7
60°-70°	590.9	8.9
70°-80°	261.8	4.0
80°-90°	56.2	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°	2361.9	35.8
0°-40°	3630.4	55.0
0°-60°	5694.2	86.2
0°-90°	6603.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6603.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3364	3364	3364	3364	3364	
5°	3305	3301	3301	3297	3297	314
15°	3091	3091	3060	3029	3017	869
25°	2679	2664	2621	2528	2458	1230
35°	2174	2158	2053	1898	1851	1359
45°	1668	1633	1493	1369	1314	1285
55°	1159	1124	1019	898	852	1039
65°	688	649	587	599	498	678
75°	276	257	241	229	253	296
85°	39	43	47	50	54	54
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3363.5	3363.5	3363.5	3363.5	3363.5
2.5°	3340.1	3340.1	3340.1	3336.3	3336.3
5°	3305.2	3301.3	3301.3	3297.4	3297.4
7.5°	3277.9	3274.0	3270.2	3266.3	3258.5
10°	3239.1	3239.1	3235.2	3215.7	3211.8
12.5°	3176.8	3172.9	3157.4	3130.2	3122.4
15°	3091.3	3091.3	3060.2	3029.1	3017.4
17.5°	2998.0	2994.1	2955.2	2924.1	2908.5
20°	2896.9	2889.1	2850.2	2799.7	2772.4
22.5°	2784.1	2784.1	2737.4	2671.3	2644.1
25°	2679.1	2663.6	2620.8	2527.5	2457.5
27.5°	2558.6	2535.2	2488.6	2356.4	2274.7
30°	2426.4	2414.7	2348.6	2177.5	2115.3
32.5°	2301.9	2282.5	2212.5	2033.6	1983.1
35°	2173.6	2158.1	2053.1	1897.5	1850.9
37.5°	2045.3	2025.9	1893.7	1769.2	1710.9
40°	1917.0	1893.7	1749.8	1637.0	1574.8
42.5°	1796.4	1765.3	1625.4	1504.8	1434.8
45°	1668.1	1633.1	1493.2	1368.7	1314.3
47.5°	1539.8	1508.7	1380.4	1252.1	1189.9
50°	1403.7	1376.5	1259.8	1131.5	1065.4
52.5°	1291.0	1248.2	1135.4	1007.1	952.7
55°	1158.7	1123.8	1018.8	898.2	851.6
57.5°	1038.2	1003.2	906.0	793.2	754.4
60°	925.4	874.9	793.2	696.0	664.9
62.5°	801.0	762.1	692.1	610.5	649.4
65°	688.2	649.4	587.2	598.8	497.7
67.5°	563.8	544.4	489.9	435.5	419.9
70°	458.8	435.5	416.1	357.7	342.2
72.5°	365.5	342.2	315.0	283.9	272.2
75°	276.1	256.6	241.1	229.4	252.7
77.5°	190.5	182.8	171.1	159.4	155.5
80°	124.4	120.5	116.7	112.8	108.9
82.5°	73.9	73.9	73.9	73.9	73.9
85°	38.9	42.8	46.7	50.5	54.4
87.5°	23.3	23.3	27.2	31.1	35.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)