

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: P563369

Luminaire Tested: FSR-24-4-LD4-3LO-40-UNV-93-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563369  
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-LD4-3LO-40-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 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

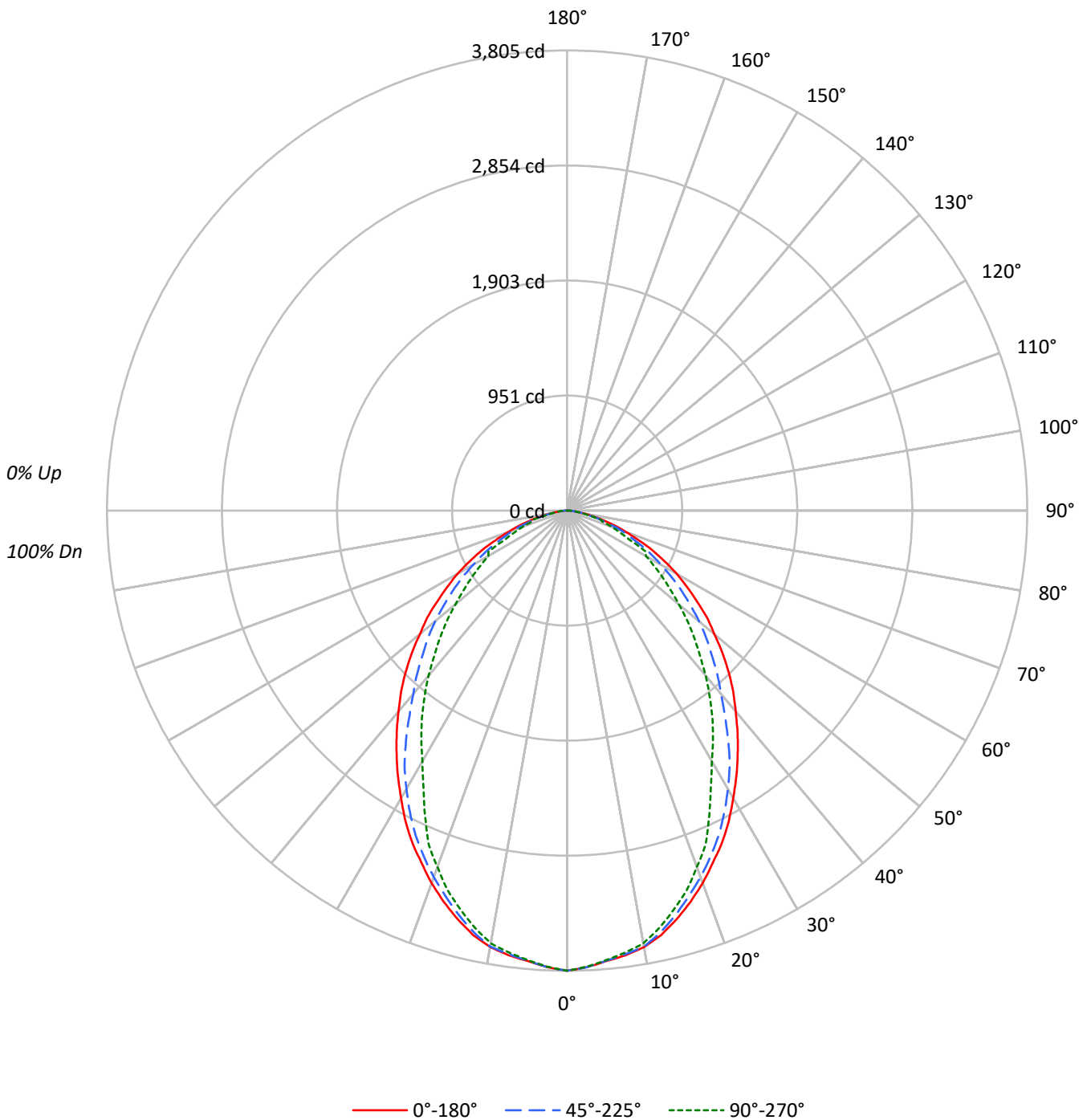
Lumens per Lamp: N/A  
Luminaire Lumens: 7470.0 lumens  
Efficiency: N/A  
Efficacy: 106.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 70.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	5120	5120	5120
5°	5050	5044	5038
10°	5006	5000	4964
15°	4871	4822	4755
20°	4692	4617	4491
25°	4500	4402	4127
30°	4265	4128	3718
35°	4039	3815	3439
40°	3809	3477	3129
45°	3591	3214	2829
50°	3324	2983	2523
55°	3075	2704	2260
60°	2817	2415	2024
65°	2479	2115	1793
70°	2042	1852	1523
75°	1624	1418	1486
80°	1091	1023	955
85°	679	815	951

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3591 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	354.2	4.7
10°-20°	972.1	13.0
20°-30°	1345.8	18.0
30°-40°	1435.0	19.2
40°-50°	1309.1	17.5
50°-60°	1025.6	13.7
60°-70°	668.4	8.9
70°-80°	296.2	4.0
80°-90°	63.6	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°	2672.1	35.8
0°-40°	4107.1	55.0
0°-60°	6441.8	86.2
0°-90°	7470.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7470.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3805	3805	3805	3805	3805	
5°	3739	3735	3735	3730	3730	355
15°	3497	3497	3462	3427	3414	983
25°	3031	3013	2965	2859	2780	1391
35°	2459	2441	2323	2147	2094	1537
45°	1887	1848	1689	1548	1487	1454
55°	1311	1271	1152	1016	963	1176
65°	779	735	664	677	563	767
75°	312	290	273	260	286	335
85°	44	48	53	57	62	61
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3805.1	3805.1	3805.1	3805.1	3805.1
2.5°	3778.7	3778.7	3778.7	3774.3	3774.3
5°	3739.1	3734.7	3734.7	3730.3	3730.3
7.5°	3708.3	3703.9	3699.5	3695.1	3686.3
10°	3664.4	3664.4	3660.0	3638.0	3633.6
12.5°	3594.0	3589.6	3572.0	3541.2	3532.4
15°	3497.2	3497.2	3462.0	3426.8	3413.6
17.5°	3391.6	3387.2	3343.2	3308.0	3290.4
20°	3277.2	3268.4	3224.5	3167.3	3136.5
22.5°	3149.7	3149.7	3096.9	3022.1	2991.3
25°	3030.9	3013.3	2964.9	2859.3	2780.2
27.5°	2894.5	2868.1	2815.3	2665.8	2573.4
30°	2745.0	2731.8	2657.0	2463.4	2393.0
32.5°	2604.2	2582.2	2503.0	2300.7	2243.5
35°	2459.0	2441.4	2322.7	2146.7	2093.9
37.5°	2313.9	2291.9	2142.3	2001.5	1935.6
40°	2168.7	2142.3	1979.5	1852.0	1781.6
42.5°	2032.3	1997.1	1838.8	1702.4	1623.2
45°	1887.2	1847.6	1689.2	1548.4	1486.9
47.5°	1742.0	1706.8	1561.6	1416.5	1346.1
50°	1588.0	1557.2	1425.3	1280.1	1205.3
52.5°	1460.5	1412.1	1284.5	1139.3	1077.8
55°	1310.9	1271.3	1152.5	1016.2	963.4
57.5°	1174.5	1134.9	1025.0	897.4	853.4
60°	1047.0	989.8	897.4	787.4	752.2
62.5°	906.2	862.2	783.0	690.6	734.6
65°	778.6	734.6	664.2	677.4	563.1
67.5°	637.9	615.9	554.3	492.7	475.1
70°	519.1	492.7	470.7	404.7	387.1
72.5°	413.5	387.1	356.3	321.1	307.9
75°	312.3	290.3	272.7	259.5	285.9
77.5°	215.6	206.8	193.6	180.4	176.0
80°	140.8	136.4	132.0	127.6	123.2
82.5°	83.6	83.6	83.6	83.6	83.6
85°	44.0	48.4	52.8	57.2	61.6
87.5°	26.4	26.4	30.8	35.2	39.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)