

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: P562572

Luminaire Tested: FSR-24-4-LD4-2HI-40-UNV-81-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562572  
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-LD4-2HI-40-UNV-81-96-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

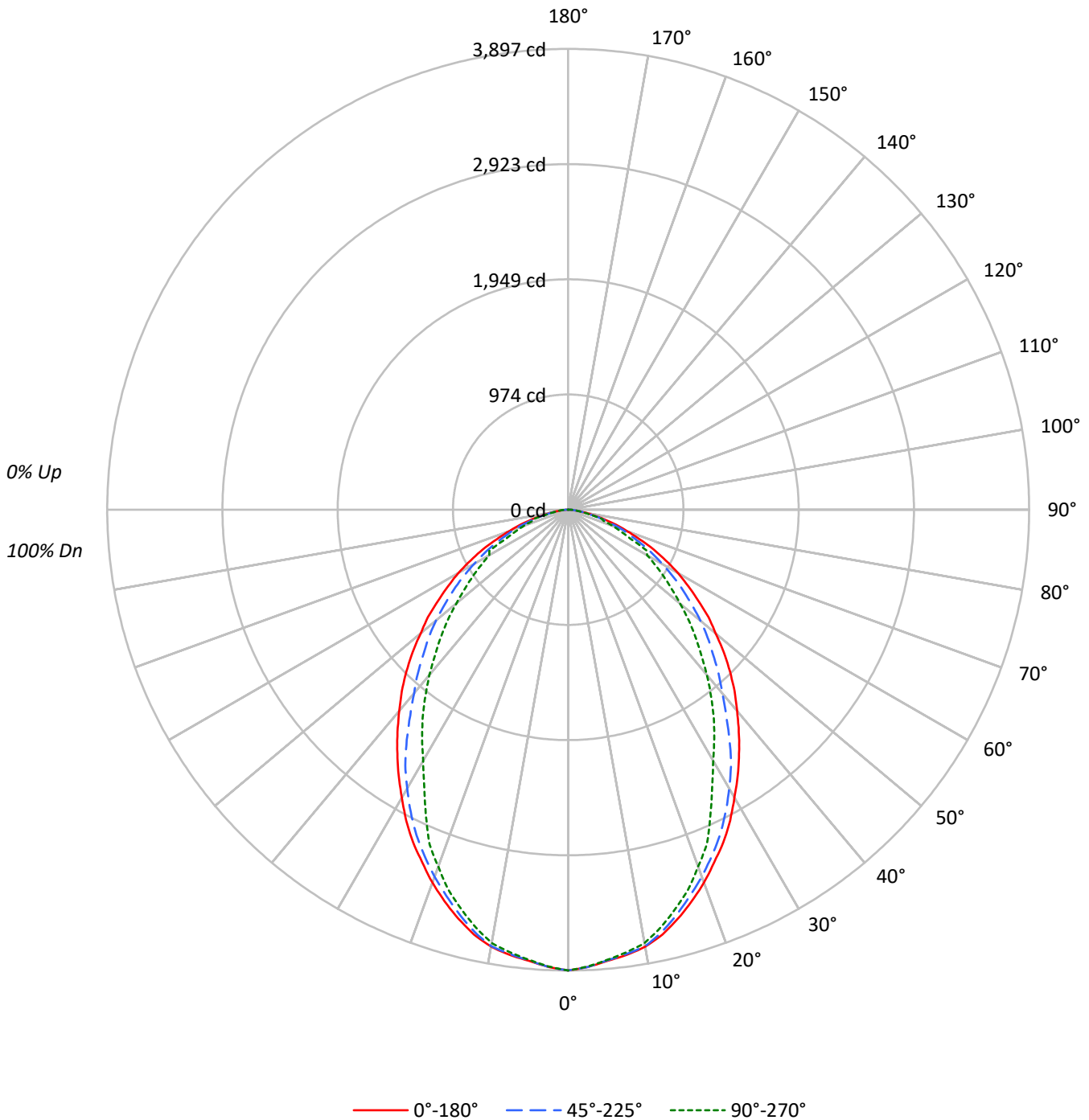
Lumens per Lamp: N/A  
Luminaire Lumens: 7650.0 lumens  
Efficiency: N/A  
Efficacy: 88.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	5243	5243	5243
5°	5172	5166	5160
10°	5127	5121	5084
15°	4989	4939	4870
20°	4806	4728	4599
25°	4608	4508	4227
30°	4367	4227	3807
35°	4136	3907	3522
40°	3901	3561	3205
45°	3677	3292	2897
50°	3404	3055	2584
55°	3149	2769	2314
60°	2885	2473	2073
65°	2539	2166	1836
70°	2091	1896	1559
75°	1663	1452	1522
80°	1117	1047	977
85°	695	835	974

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3677 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	362.7	4.7
10°-20°	995.5	13.0
20°-30°	1378.2	18.0
30°-40°	1469.6	19.2
40°-50°	1340.7	17.5
50°-60°	1050.3	13.7
60°-70°	684.6	8.9
70°-80°	303.3	4.0
80°-90°	65.1	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°	2736.5	35.8
0°-40°	4206.0	55.0
0°-60°	6597.1	86.2
0°-90°	7650.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7650.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3897	3897	3897	3897	3897	
5°	3829	3825	3825	3820	3820	363
15°	3582	3582	3545	3509	3496	1007
25°	3104	3086	3036	2928	2847	1425
35°	2518	2500	2379	2198	2144	1574
45°	1933	1892	1730	1586	1523	1489
55°	1342	1302	1180	1041	987	1204
65°	797	752	680	694	577	786
75°	320	297	279	266	293	343
85°	45	50	54	59	63	62
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3896.8	3896.8	3896.8	3896.8	3896.8
2.5°	3869.8	3869.8	3869.8	3865.3	3865.3
5°	3829.2	3824.7	3824.7	3820.2	3820.2
7.5°	3797.7	3793.2	3788.7	3784.2	3775.2
10°	3752.6	3752.6	3748.1	3725.6	3721.1
12.5°	3680.6	3676.1	3658.0	3626.5	3617.5
15°	3581.5	3581.5	3545.4	3509.4	3495.9
17.5°	3473.3	3468.8	3423.8	3387.7	3369.7
20°	3356.2	3347.2	3302.2	3243.6	3212.1
22.5°	3225.6	3225.6	3171.5	3094.9	3063.4
25°	3103.9	3085.9	3036.4	2928.2	2847.1
27.5°	2964.3	2937.2	2883.2	2730.0	2635.4
30°	2811.1	2797.6	2721.0	2522.8	2450.7
32.5°	2666.9	2644.4	2563.3	2356.1	2297.5
35°	2518.3	2500.3	2378.6	2198.4	2144.4
37.5°	2369.6	2347.1	2193.9	2049.8	1982.2
40°	2221.0	2193.9	2027.2	1896.6	1824.5
42.5°	2081.3	2045.3	1883.1	1743.4	1662.3
45°	1932.6	1892.1	1729.9	1585.8	1522.7
47.5°	1784.0	1747.9	1599.3	1450.6	1378.5
50°	1626.3	1594.8	1459.6	1310.9	1234.4
52.5°	1495.7	1446.1	1315.5	1166.8	1103.7
55°	1342.5	1301.9	1180.3	1040.7	986.6
57.5°	1202.8	1162.3	1049.7	919.0	874.0
60°	1072.2	1013.6	919.0	806.4	770.4
62.5°	928.0	883.0	801.9	707.3	752.3
65°	797.4	752.3	680.3	693.8	576.6
67.5°	653.2	630.7	567.6	504.6	486.5
70°	531.6	504.6	482.0	414.5	396.4
72.5°	423.5	396.4	364.9	328.9	315.3
75°	319.9	297.3	279.3	265.8	292.8
77.5°	220.7	211.7	198.2	184.7	180.2
80°	144.2	139.7	135.1	130.6	126.1
82.5°	85.6	85.6	85.6	85.6	85.6
85°	45.0	49.6	54.1	58.6	63.1
87.5°	27.0	27.0	31.5	36.0	40.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)