

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: P563171

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-93-85-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563171
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-LD4-3HI-40-UNV-93-85-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14244.0 lumens
Efficiency: N/A
Efficacy: 109.9 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

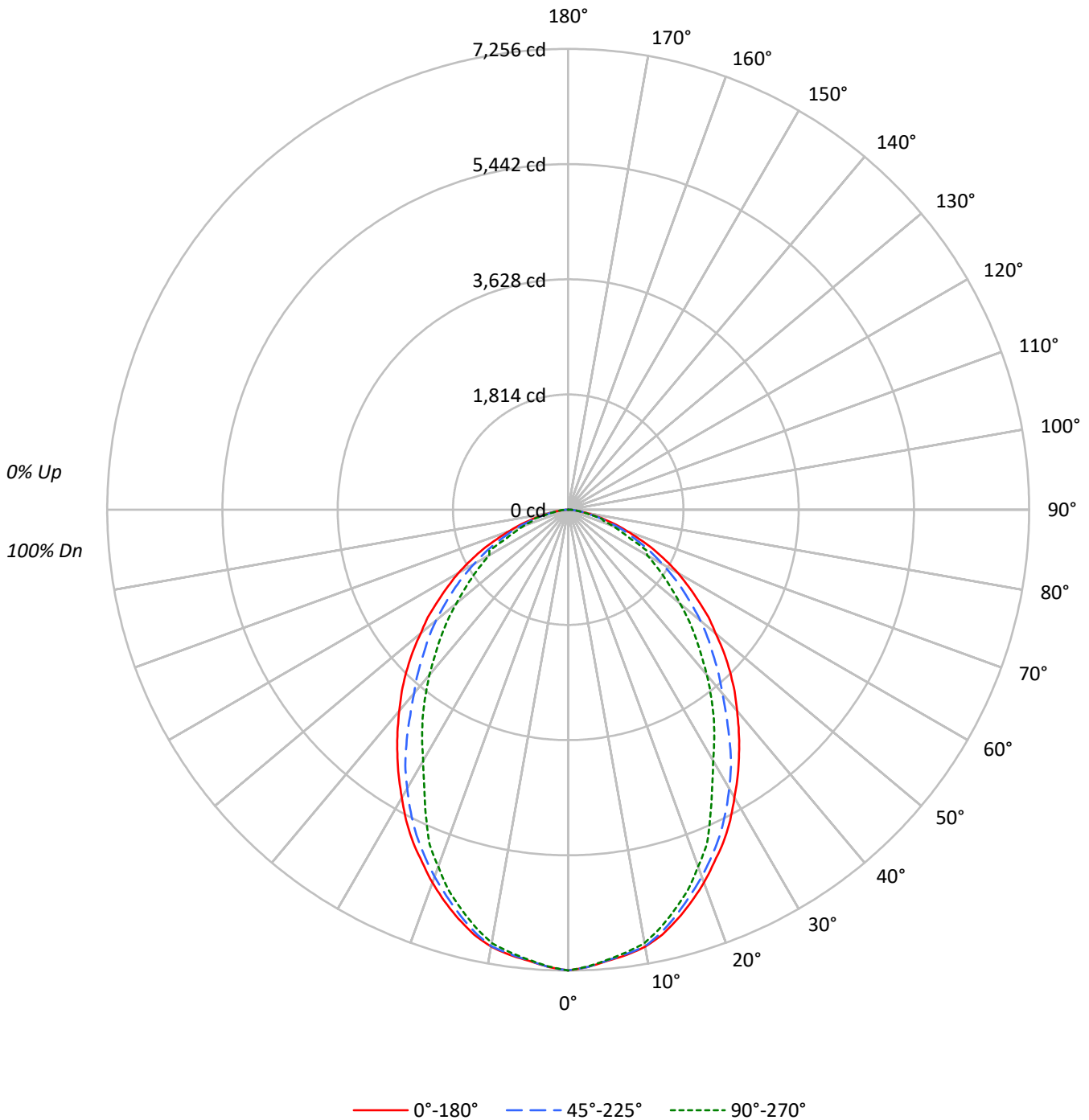
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	9762	9762	9762
5°	9630	9619	9607
10°	9546	9535	9466
15°	9289	9195	9067
20°	8948	8804	8563
25°	8580	8393	7870
30°	8132	7871	7089
35°	7702	7275	6558
40°	7263	6630	5967
45°	6847	6129	5395
50°	6338	5689	4811
55°	5864	5155	4309
60°	5372	4605	3860
65°	4727	4032	3418
70°	3894	3531	2904
75°	3096	2704	2834
80°	2080	1949	1820
85°	1295	1555	1812

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6847 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	675.4	4.7
10°-20°	1853.6	13.0
20°-30°	2566.2	18.0
30°-40°	2736.3	19.2
40°-50°	2496.3	17.5
50°-60°	1955.7	13.7
60°-70°	1274.6	8.9
70°-80°	564.7	4.0
80°-90°	121.2	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°	5095.2	35.8
0°-40°	7831.5	55.0
0°-60°	12283.5	86.2
0°-90°	14244.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14244.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7256	7256	7256	7256	7256	
5°	7130	7122	7122	7113	7113	677
15°	6668	6668	6601	6534	6509	1875
25°	5779	5746	5654	5452	5301	2653
35°	4689	4655	4429	4093	3993	2931
45°	3598	3523	3221	2953	2835	2772
55°	2500	2424	2198	1938	1837	2242
65°	1485	1401	1267	1292	1074	1463
75°	596	554	520	495	545	638
85°	84	92	101	109	117	116
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7255.7	7255.7	7255.7	7255.7	7255.7
2.5°	7205.4	7205.4	7205.4	7197.0	7197.0
5°	7129.9	7121.5	7121.5	7113.1	7113.1
7.5°	7071.2	7062.8	7054.4	7046.0	7029.2
10°	6987.3	6987.3	6978.9	6937.0	6928.6
12.5°	6853.1	6844.7	6811.1	6752.4	6735.6
15°	6668.5	6668.5	6601.4	6534.3	6509.2
17.5°	6467.2	6458.8	6375.0	6307.8	6274.3
20°	6249.1	6232.4	6148.5	6039.4	5980.7
22.5°	6005.9	6005.9	5905.2	5762.6	5703.9
25°	5779.4	5745.8	5653.6	5452.3	5301.3
27.5°	5519.4	5469.0	5368.4	5083.2	4907.0
30°	5234.2	5209.0	5066.4	4697.3	4563.1
32.5°	4965.8	4923.8	4772.8	4387.0	4277.9
35°	4688.9	4655.4	4428.9	4093.4	3992.7
37.5°	4412.1	4370.2	4085.0	3816.6	3690.8
40°	4135.3	4085.0	3774.6	3531.4	3397.2
42.5°	3875.3	3808.2	3506.2	3246.2	3095.2
45°	3598.5	3523.0	3221.0	2952.6	2835.2
47.5°	3321.7	3254.6	2977.8	2701.0	2566.8
50°	3028.1	2969.4	2717.7	2440.9	2298.3
52.5°	2784.8	2692.6	2449.3	2172.5	2055.1
55°	2499.7	2424.2	2197.7	1937.7	1837.0
57.5°	2239.6	2164.1	1954.4	1711.2	1627.3
60°	1996.4	1887.3	1711.2	1501.5	1434.4
62.5°	1727.9	1644.1	1493.1	1316.9	1400.8
65°	1484.7	1400.8	1266.6	1291.8	1073.7
67.5°	1216.3	1174.3	1056.9	939.5	905.9
70°	989.8	939.5	897.5	771.7	738.2
72.5°	788.5	738.2	679.4	612.3	587.2
75°	595.6	553.6	520.1	494.9	545.2
77.5°	411.0	394.2	369.1	343.9	335.5
80°	268.4	260.0	251.6	243.3	234.9
82.5°	159.4	159.4	159.4	159.4	159.4
85°	83.9	92.3	100.7	109.0	117.4
87.5°	50.3	50.3	58.7	67.1	75.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)