

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: P563241

Luminaire Tested: FSR-24-4-LD4-3HI-50-UNV-93-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563241
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-50-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 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12479.0 lumens
Efficiency: N/A
Efficacy: 96.3 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

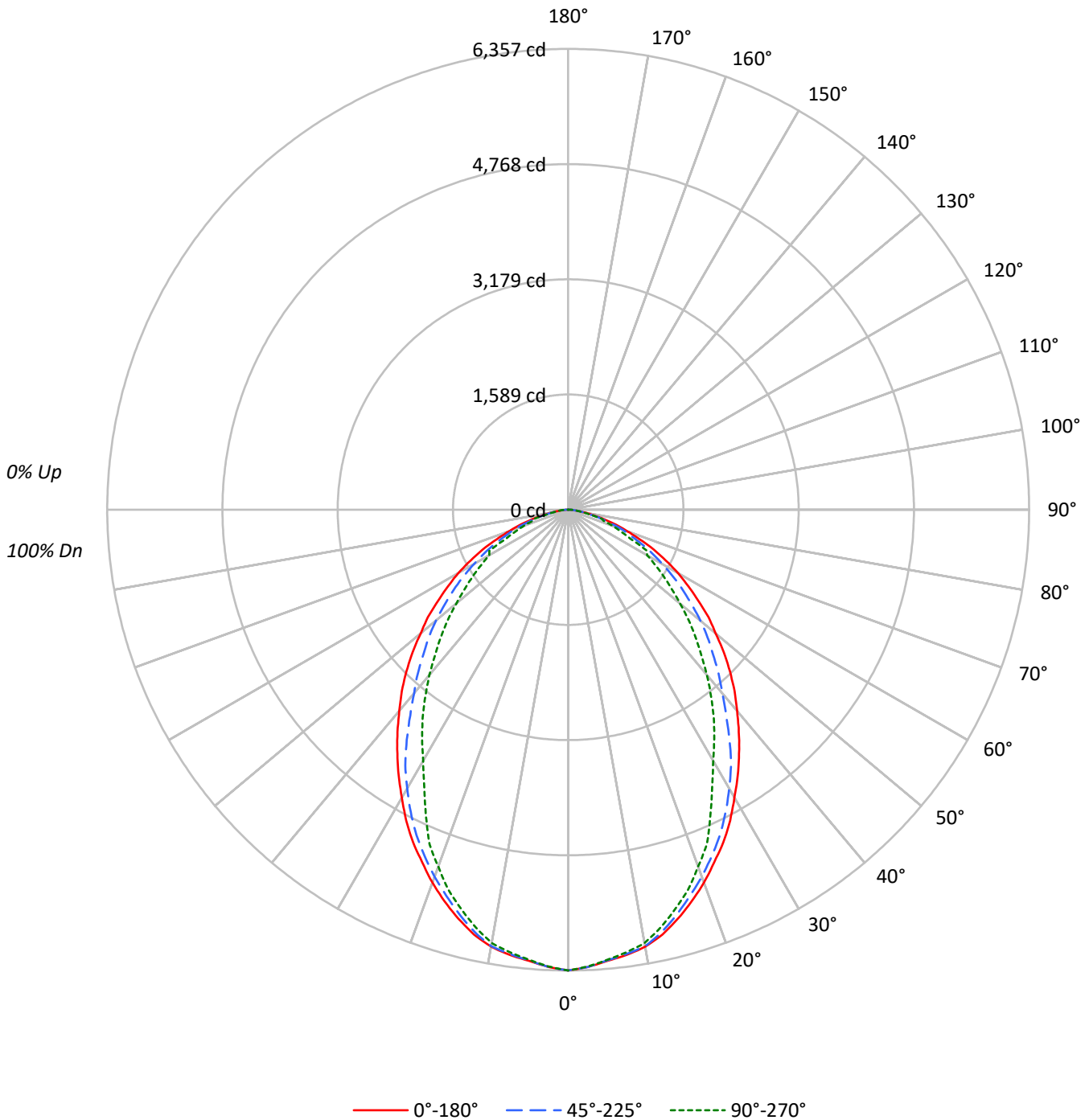
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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									100																			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87									87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75									75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65									65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56									56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50									50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44									44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40									40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36									36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33									33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30									30																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8553	8553	8553
5°	8437	8427	8417
10°	8363	8353	8293
15°	8138	8056	7943
20°	7839	7713	7502
25°	7517	7353	6895
30°	7124	6896	6211
35°	6747	6373	5746
40°	6363	5808	5227
45°	5999	5370	4726
50°	5553	4984	4215
55°	5137	4517	3775
60°	4707	4034	3381
65°	4141	3533	2995
70°	3411	3093	2544
75°	2713	2368	2483
80°	1822	1709	1595
85°	1135	1362	1589

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5999 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	591.7	4.7
10°-20°	1623.9	13.0
20°-30°	2248.2	18.0
30°-40°	2397.2	19.2
40°-50°	2187.0	17.5
50°-60°	1713.3	13.7
60°-70°	1116.7	8.9
70°-80°	494.7	4.0
80°-90°	106.2	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°	4463.8	35.8
0°-40°	6861.1	55.0
0°-60°	10761.4	86.2
0°-90°	12479.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12479.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6357	6357	6357	6357	6357	
5°	6246	6239	6239	6232	6232	593
15°	5842	5842	5783	5725	5703	1642
25°	5063	5034	4953	4777	4644	2325
35°	4108	4078	3880	3586	3498	2568
45°	3153	3086	2822	2587	2484	2428
55°	2190	2124	1925	1698	1609	1964
65°	1301	1227	1110	1132	941	1282
75°	522	485	456	434	478	559
85°	74	81	88	96	103	102
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6356.6	6356.6	6356.6	6356.6	6356.6
2.5°	6312.5	6312.5	6312.5	6305.2	6305.2
5°	6246.4	6239.1	6239.1	6231.7	6231.7
7.5°	6195.0	6187.6	6180.3	6172.9	6158.2
10°	6121.5	6121.5	6114.1	6077.4	6070.0
12.5°	6003.9	5996.5	5967.2	5915.7	5901.0
15°	5842.2	5842.2	5783.4	5724.6	5702.6
17.5°	5665.9	5658.5	5585.0	5526.2	5496.8
20°	5474.8	5460.1	5386.6	5291.1	5239.6
22.5°	5261.7	5261.7	5173.5	5048.6	4997.1
25°	5063.3	5033.9	4953.0	4776.7	4644.4
27.5°	4835.5	4791.4	4703.2	4453.3	4299.0
30°	4585.6	4563.6	4438.6	4115.3	3997.7
32.5°	4350.4	4313.7	4181.4	3843.4	3747.8
35°	4107.9	4078.5	3880.1	3586.2	3498.0
37.5°	3865.4	3828.7	3578.8	3343.7	3233.4
40°	3622.9	3578.8	3306.9	3093.8	2976.2
42.5°	3395.1	3336.3	3071.8	2844.0	2711.7
45°	3152.6	3086.5	2821.9	2586.7	2483.9
47.5°	2910.1	2851.3	2608.8	2366.3	2248.7
50°	2652.9	2601.4	2381.0	2138.5	2013.5
52.5°	2439.8	2358.9	2145.8	1903.3	1800.4
55°	2189.9	2123.8	1925.4	1697.6	1609.4
57.5°	1962.1	1896.0	1712.2	1499.1	1425.7
60°	1749.0	1653.5	1499.1	1315.4	1256.6
62.5°	1513.8	1440.3	1308.1	1153.7	1227.2
65°	1300.7	1227.2	1109.7	1131.7	940.6
67.5°	1065.6	1028.8	925.9	823.1	793.7
70°	867.1	823.1	786.3	676.1	646.7
72.5°	690.8	646.7	595.2	536.5	514.4
75°	521.8	485.0	455.6	433.6	477.7
77.5°	360.1	345.4	323.3	301.3	293.9
80°	235.2	227.8	220.5	213.1	205.8
82.5°	139.6	139.6	139.6	139.6	139.6
85°	73.5	80.8	88.2	95.5	102.9
87.5°	44.1	44.1	51.4	58.8	66.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)