

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: P563176

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563176
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-93-88-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10310.0 lumens
Efficiency: N/A
Efficacy: 79.6 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

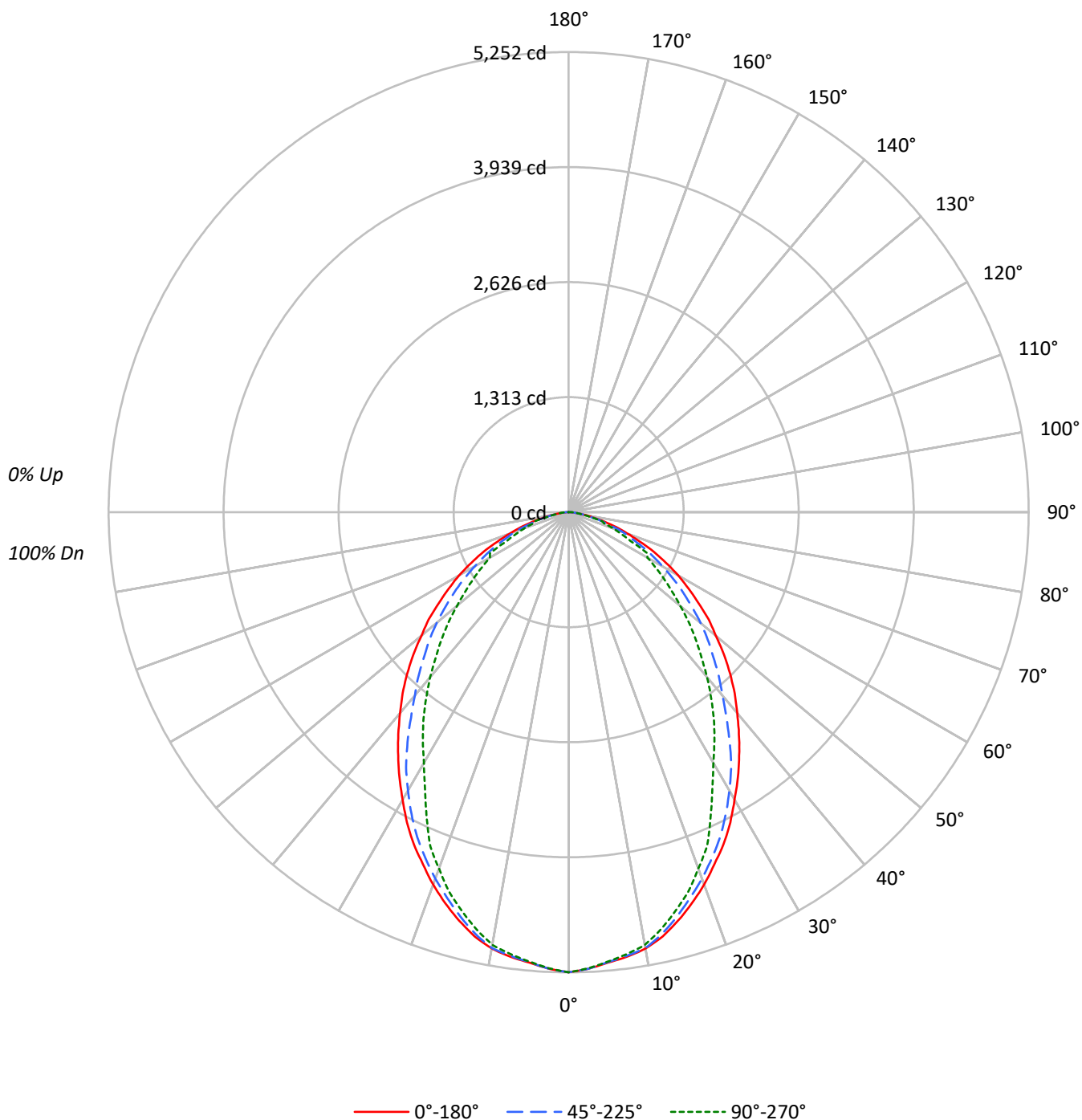
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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			
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°	7066	7066	7066
5°	6970	6962	6954
10°	6910	6901	6852
15°	6724	6656	6563
20°	6476	6372	6198
25°	6210	6075	5696
30°	5886	5697	5132
35°	5575	5265	4747
40°	5257	4799	4319
45°	4956	4436	3905
50°	4588	4118	3482
55°	4244	3731	3119
60°	3888	3333	2794
65°	3421	2919	2474
70°	2818	2555	2102
75°	2241	1957	2051
80°	1506	1411	1317
85°	937	1125	1312

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4956 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	488.9	4.7
10°-20°	1341.7	13.0
20°-30°	1857.4	18.0
30°-40°	1980.6	19.2
40°-50°	1806.9	17.5
50°-60°	1415.5	13.7
60°-70°	922.6	8.9
70°-80°	408.7	4.0
80°-90°	87.8	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°	3688.0	35.8
0°-40°	5668.5	55.0
0°-60°	8890.9	86.2
0°-90°	10310.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10310.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5252	5252	5252	5252	5252	
5°	5161	5155	5155	5149	5149	490
15°	4827	4827	4778	4730	4711	1357
25°	4183	4159	4092	3946	3837	1921
35°	3394	3370	3206	2963	2890	2122
45°	2605	2550	2331	2137	2052	2006
55°	1809	1755	1591	1402	1330	1623
65°	1075	1014	917	935	777	1059
75°	431	401	376	358	395	462
85°	61	67	73	79	85	84
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5251.8	5251.8	5251.8	5251.8	5251.8
2.5°	5215.3	5215.3	5215.3	5209.3	5209.3
5°	5160.7	5154.6	5154.6	5148.6	5148.6
7.5°	5118.2	5112.1	5106.1	5100.0	5087.8
10°	5057.5	5057.5	5051.4	5021.1	5015.0
12.5°	4960.3	4954.3	4930.0	4887.5	4875.3
15°	4826.8	4826.8	4778.2	4729.6	4711.4
17.5°	4681.1	4675.0	4614.3	4565.7	4541.4
20°	4523.2	4511.1	4450.3	4371.4	4328.9
22.5°	4347.1	4347.1	4274.3	4171.1	4128.6
25°	4183.2	4158.9	4092.1	3946.4	3837.1
27.5°	3995.0	3958.6	3885.7	3679.3	3551.8
30°	3788.6	3770.4	3667.1	3400.0	3302.9
32.5°	3594.3	3563.9	3454.6	3175.4	3096.4
35°	3393.9	3369.6	3205.7	2962.9	2890.0
37.5°	3193.6	3163.2	2956.8	2762.5	2671.4
40°	2993.2	2956.8	2732.1	2556.1	2458.9
42.5°	2805.0	2756.4	2537.9	2349.6	2240.4
45°	2604.6	2550.0	2331.4	2137.1	2052.1
47.5°	2404.3	2355.7	2155.4	1955.0	1857.9
50°	2191.8	2149.3	1967.1	1766.8	1663.6
52.5°	2015.7	1948.9	1772.9	1572.5	1487.5
55°	1809.3	1754.6	1590.7	1402.5	1329.6
57.5°	1621.1	1566.4	1414.6	1238.6	1177.9
60°	1445.0	1366.1	1238.6	1086.8	1038.2
62.5°	1250.7	1190.0	1080.7	953.2	1013.9
65°	1074.6	1013.9	916.8	935.0	777.1
67.5°	880.4	850.0	765.0	680.0	655.7
70°	716.4	680.0	649.6	558.6	534.3
72.5°	570.7	534.3	491.8	443.2	425.0
75°	431.1	400.7	376.4	358.2	394.6
77.5°	297.5	285.4	267.1	248.9	242.9
80°	194.3	188.2	182.1	176.1	170.0
82.5°	115.4	115.4	115.4	115.4	115.4
85°	60.7	66.8	72.9	78.9	85.0
87.5°	36.4	36.4	42.5	48.6	54.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)