

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: P563229

Luminaire Tested: FSR-24-4-LD4-3HI-50-UNV-82-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563229
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-82-96-EDD
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13597.0 lumens
Efficiency: N/A
Efficacy: 104.9 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

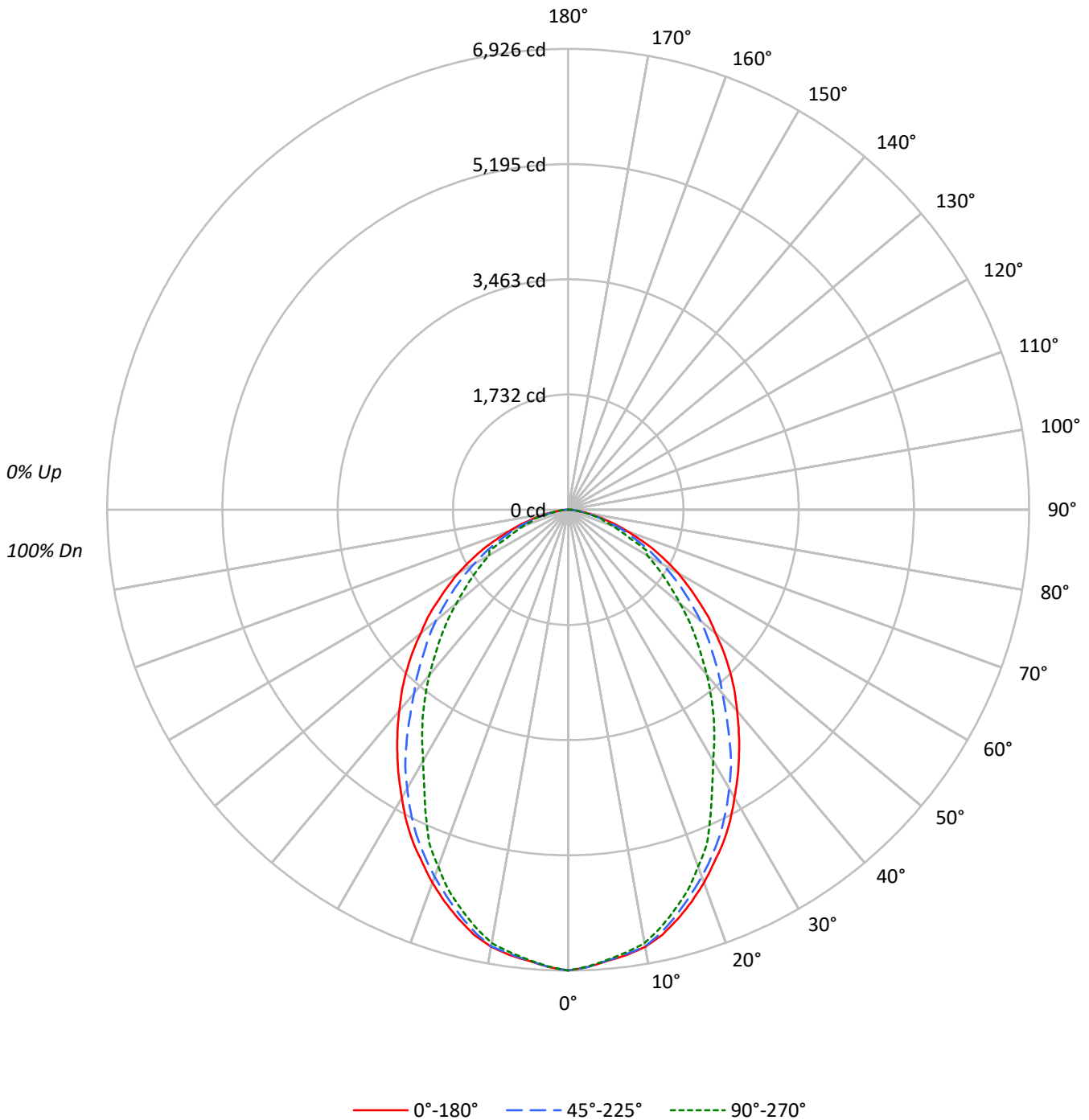
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	9319	9319	9319
5°	9192	9182	9171
10°	9113	9102	9036
15°	8867	8778	8655
20°	8541	8404	8175
25°	8190	8012	7513
30°	7763	7514	6767
35°	7352	6944	6260
40°	6933	6329	5696
45°	6536	5851	5150
50°	6051	5430	4592
55°	5597	4921	4114
60°	5128	4395	3684
65°	4512	3849	3263
70°	3717	3371	2772
75°	2955	2581	2706
80°	1985	1861	1737
85°	1237	1484	1731

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6536 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	644.7	4.7
10°-20°	1769.4	13.0
20°-30°	2449.6	18.0
30°-40°	2612.0	19.2
40°-50°	2382.9	17.5
50°-60°	1866.8	13.7
60°-70°	1216.7	8.9
70°-80°	539.0	4.0
80°-90°	115.7	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°	4863.8	35.8
0°-40°	7475.8	55.0
0°-60°	11725.5	86.2
0°-90°	13597.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13597.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6926	6926	6926	6926	6926	
5°	6806	6798	6798	6790	6790	646
15°	6366	6366	6302	6238	6214	1790
25°	5517	5485	5397	5205	5060	2533
35°	4476	4444	4228	3908	3811	2798
45°	3435	3363	3075	2818	2706	2646
55°	2386	2314	2098	1850	1754	2140
65°	1417	1337	1209	1233	1025	1397
75°	568	528	496	472	520	609
85°	80	88	96	104	112	111
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6926.1	6926.1	6926.1	6926.1	6926.1
2.5°	6878.1	6878.1	6878.1	6870.1	6870.1
5°	6806.0	6798.0	6798.0	6790.0	6790.0
7.5°	6750.0	6742.0	6734.0	6726.0	6709.9
10°	6669.9	6669.9	6661.9	6621.9	6613.9
12.5°	6541.8	6533.8	6501.8	6445.7	6429.7
15°	6365.6	6365.6	6301.6	6237.5	6213.5
17.5°	6173.5	6165.5	6085.4	6021.3	5989.3
20°	5965.3	5949.3	5869.2	5765.1	5709.1
22.5°	5733.1	5733.1	5637.0	5500.9	5444.8
25°	5516.9	5484.9	5396.8	5204.6	5060.5
27.5°	5268.7	5220.6	5124.5	4852.3	4684.1
30°	4996.4	4972.4	4836.3	4484.0	4355.9
32.5°	4740.2	4700.2	4556.0	4187.7	4083.6
35°	4476.0	4443.9	4227.7	3907.5	3811.4
37.5°	4211.7	4171.7	3899.5	3643.2	3523.1
40°	3947.5	3899.5	3603.2	3371.0	3242.9
42.5°	3699.3	3635.2	3347.0	3098.7	2954.6
45°	3435.0	3363.0	3074.7	2818.5	2706.4
47.5°	3170.8	3106.7	2842.5	2578.3	2450.2
50°	2890.6	2834.5	2594.3	2330.1	2193.9
52.5°	2658.4	2570.3	2338.1	2073.8	1961.7
55°	2386.1	2314.0	2097.9	1849.6	1753.6
57.5°	2137.9	2065.8	1865.7	1633.4	1553.4
60°	1905.7	1801.6	1633.4	1433.3	1369.2
62.5°	1649.5	1569.4	1425.3	1257.1	1337.2
65°	1417.3	1337.2	1209.1	1233.1	1024.9
67.5°	1161.0	1121.0	1008.9	896.8	864.8
70°	944.8	896.8	856.8	736.7	704.6
72.5°	752.7	704.6	648.6	584.5	560.5
75°	568.5	528.5	496.4	472.4	520.5
77.5°	392.3	376.3	352.3	328.3	320.3
80°	256.2	248.2	240.2	232.2	224.2
82.5°	152.1	152.1	152.1	152.1	152.1
85°	80.1	88.1	96.1	104.1	112.1
87.5°	48.0	48.0	56.0	64.1	72.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)