

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: P563696

Luminaire Tested: FSR-24-4-LD4-4HI-40-UNV-80-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563696
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-LD4-4HI-40-UNV-80-84-EDD-90
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRONM
SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16248.0 lumens
Efficiency: N/A
Efficacy: 94.0 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

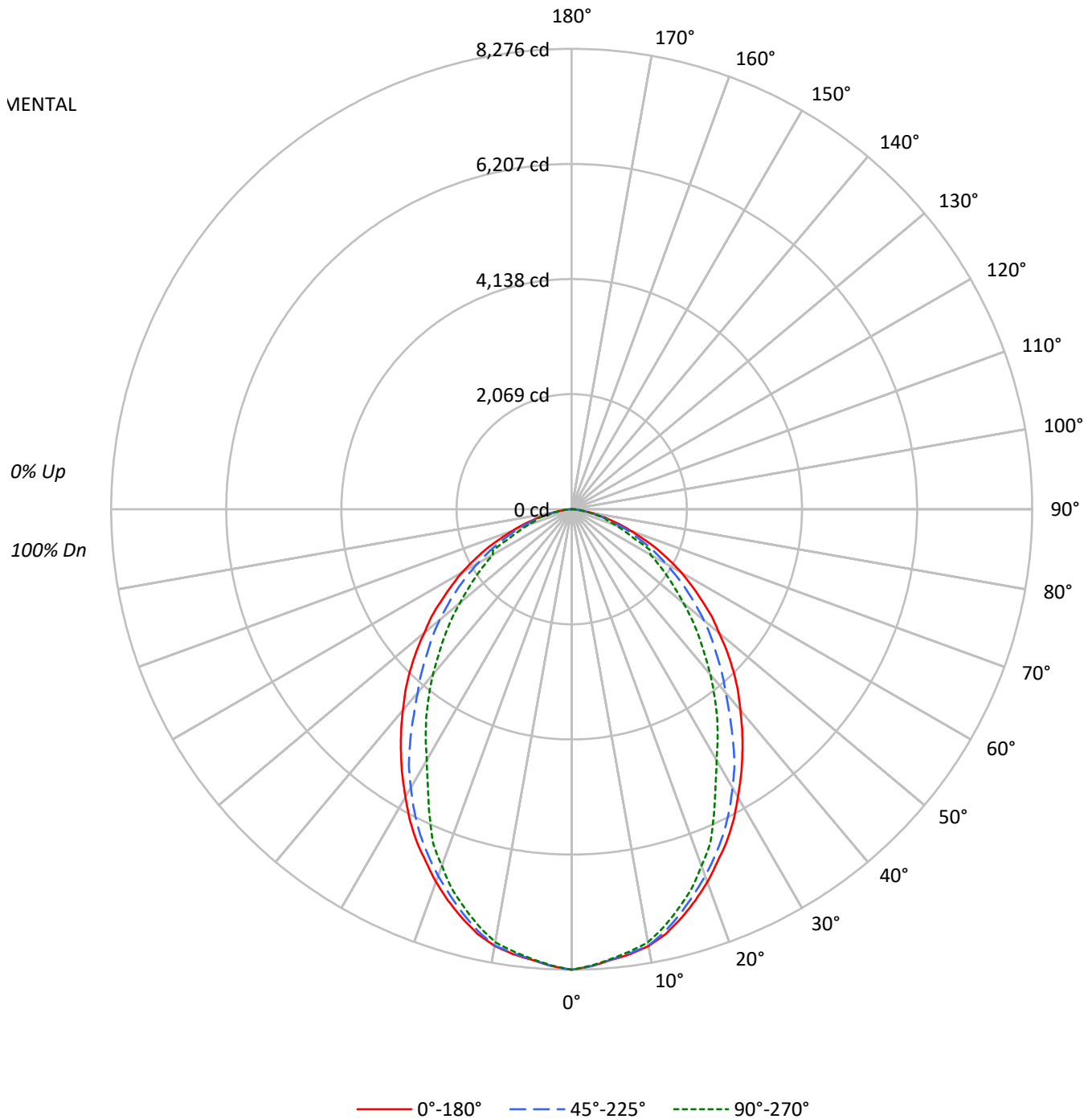
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	11136	11136	11136
5°	10985	10972	10959
10°	10889	10876	10798
15°	10596	10489	10343
20°	10207	10042	9768
25°	9787	9574	8977
30°	9276	8979	8087
35°	8785	8298	7481
40°	8285	7563	6806
45°	7811	6991	6154
50°	7230	6489	5488
55°	6689	5881	4915
60°	6128	5253	4403
65°	5392	4600	3899
70°	4442	4028	3312
75°	3531	3084	3233
80°	2373	2224	2076
85°	1477	1772	2069

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7811 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	770.4	4.7
10°-20°	2114.4	13.0
20°-30°	2927.2	18.0
30°-40°	3121.3	19.2
40°-50°	2847.5	17.5
50°-60°	2230.8	13.7
60°-70°	1453.9	8.9
70°-80°	644.1	4.0
80°-90°	138.3	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°	5812.0	35.8
0°-40°	8933.3	55.0
0°-60°	14011.6	86.2
0°-90°	16248.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16248.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8276	8276	8276	8276	8276	
5°	8133	8123	8123	8114	8114	772
15°	7607	7607	7530	7454	7425	2138
25°	6592	6554	6449	6219	6047	3027
35°	5349	5310	5052	4669	4554	3344
45°	4105	4019	3674	3368	3234	3162
55°	2851	2765	2507	2210	2095	2557
65°	1694	1598	1445	1474	1225	1669
75°	679	632	593	564	622	728
85°	96	105	115	124	134	133
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8276.5	8276.5	8276.5	8276.5	8276.5
2.5°	8219.1	8219.1	8219.1	8209.5	8209.5
5°	8133.0	8123.4	8123.4	8113.9	8113.9
7.5°	8066.0	8056.4	8046.9	8037.3	8018.2
10°	7970.3	7970.3	7960.8	7912.9	7903.4
12.5°	7817.2	7807.7	7769.4	7702.4	7683.3
15°	7606.7	7606.7	7530.2	7453.6	7424.9
17.5°	7377.1	7367.5	7271.9	7195.3	7157.0
20°	7128.3	7109.2	7013.5	6889.1	6822.1
22.5°	6850.8	6850.8	6736.0	6573.4	6506.4
25°	6592.5	6554.2	6449.0	6219.3	6047.1
27.5°	6295.9	6238.5	6123.7	5798.3	5597.4
30°	5970.6	5941.9	5779.2	5358.2	5205.1
32.5°	5664.4	5616.5	5444.3	5004.2	4879.8
35°	5348.6	5310.4	5052.0	4669.3	4554.5
37.5°	5032.9	4985.0	4659.7	4353.5	4210.0
40°	4717.1	4659.7	4305.7	4028.2	3875.1
42.5°	4420.5	4344.0	3999.5	3702.9	3530.7
45°	4104.8	4018.7	3674.2	3368.0	3234.1
47.5°	3789.0	3712.5	3396.7	3081.0	2927.9
50°	3454.1	3387.2	3100.1	2784.4	2621.7
52.5°	3176.7	3071.4	2793.9	2478.2	2344.2
55°	2851.3	2765.2	2506.9	2210.3	2095.4
57.5°	2554.7	2468.6	2229.4	1951.9	1856.2
60°	2277.2	2152.9	1951.9	1712.7	1636.2
62.5°	1971.1	1875.4	1703.1	1502.2	1597.9
65°	1693.6	1597.9	1444.8	1473.5	1224.7
67.5°	1387.4	1339.6	1205.6	1071.6	1033.4
70°	1129.1	1071.6	1023.8	880.3	842.0
72.5°	899.4	842.0	775.0	698.5	669.8
75°	679.3	631.5	593.2	564.5	621.9
77.5°	468.8	449.7	421.0	392.3	382.7
80°	306.2	296.6	287.0	277.5	267.9
82.5°	181.8	181.8	181.8	181.8	181.8
85°	95.7	105.3	114.8	124.4	134.0
87.5°	57.4	57.4	67.0	76.5	86.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)