

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: P563168

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-93-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563168
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-93-84-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12210.0 lumens
Efficiency: N/A
Efficacy: 94.2 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

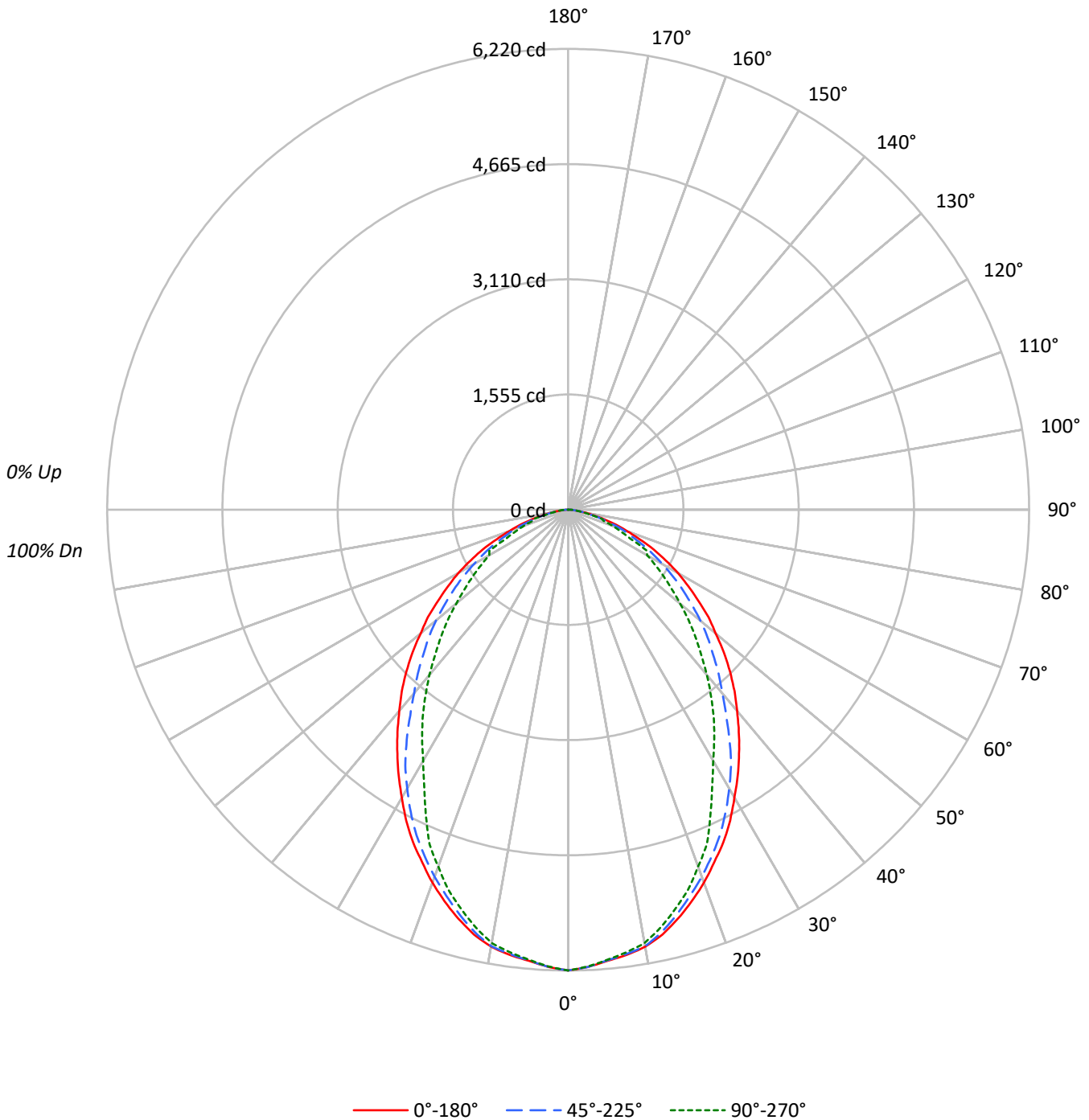
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8368	8368	8368
5°	8255	8245	8235
10°	8183	8173	8114
15°	7963	7882	7772
20°	7670	7547	7341
25°	7355	7195	6746
30°	6971	6747	6077
35°	6602	6236	5622
40°	6226	5683	5115
45°	5869	5254	4624
50°	5433	4877	4124
55°	5026	4419	3694
60°	4605	3947	3309
65°	4052	3457	2930
70°	3338	3027	2489
75°	2654	2318	2430
80°	1783	1671	1560
85°	1110	1332	1555

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5869 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	579.0	4.7
10°-20°	1588.9	13.0
20°-30°	2199.7	18.0
30°-40°	2345.6	19.2
40°-50°	2139.8	17.5
50°-60°	1676.4	13.7
60°-70°	1092.6	8.9
70°-80°	484.1	4.0
80°-90°	103.9	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°	4367.6	35.8
0°-40°	6713.2	55.0
0°-60°	10529.4	86.2
0°-90°	12210.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12210.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6220	6220	6220	6220	6220	
5°	6112	6105	6105	6097	6097	580
15°	5716	5716	5659	5601	5580	1607
25°	4954	4925	4846	4674	4544	2274
35°	4019	3991	3796	3509	3423	2513
45°	3085	3020	2761	2531	2430	2376
55°	2143	2078	1884	1661	1575	1922
65°	1273	1201	1086	1107	920	1254
75°	510	475	446	424	467	547
85°	72	79	86	94	101	100
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6219.6	6219.6	6219.6	6219.6	6219.6
2.5°	6176.5	6176.5	6176.5	6169.3	6169.3
5°	6111.8	6104.6	6104.6	6097.4	6097.4
7.5°	6061.4	6054.2	6047.0	6039.9	6025.5
10°	5989.5	5989.5	5982.3	5946.4	5939.2
12.5°	5874.5	5867.3	5838.5	5788.2	5773.8
15°	5716.3	5716.3	5658.8	5601.2	5579.7
17.5°	5543.7	5536.5	5464.6	5407.1	5378.3
20°	5356.8	5342.4	5270.5	5177.0	5126.7
22.5°	5148.3	5148.3	5062.0	4939.7	4889.4
25°	4954.1	4925.4	4846.3	4673.7	4544.3
27.5°	4731.2	4688.1	4601.8	4357.3	4206.3
30°	4486.7	4465.2	4342.9	4026.6	3911.5
32.5°	4256.7	4220.7	4091.3	3760.5	3667.1
35°	4019.4	3990.6	3796.5	3508.9	3422.6
37.5°	3782.1	3746.1	3501.7	3271.6	3163.7
40°	3544.8	3501.7	3235.6	3027.1	2912.1
42.5°	3321.9	3264.4	3005.5	2782.6	2653.2
45°	3084.6	3019.9	2761.1	2531.0	2430.3
47.5°	2847.4	2789.8	2552.6	2315.3	2200.2
50°	2595.7	2545.4	2329.7	2092.4	1970.1
52.5°	2387.2	2308.1	2099.6	1862.3	1761.6
55°	2142.7	2078.0	1883.9	1661.0	1574.7
57.5°	1919.8	1855.1	1675.3	1466.8	1394.9
60°	1711.3	1617.8	1466.8	1287.1	1229.5
62.5°	1481.2	1409.3	1279.9	1128.9	1200.8
65°	1272.7	1200.8	1085.7	1107.3	920.4
67.5°	1042.6	1006.6	906.0	805.3	776.6
70°	848.5	805.3	769.4	661.5	632.7
72.5°	675.9	632.7	582.4	524.9	503.3
75°	510.5	474.6	445.8	424.2	467.4
77.5°	352.3	337.9	316.4	294.8	287.6
80°	230.1	222.9	215.7	208.5	201.3
82.5°	136.6	136.6	136.6	136.6	136.6
85°	71.9	79.1	86.3	93.5	100.7
87.5°	43.1	43.1	50.3	57.5	64.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)