

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: P562958

Luminaire Tested: FSR-24-4-LD4-2STD-40-UNV-81-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562958
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-LD4-2STD-40-UNV-81-97-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6013.0 lumens
Efficiency: N/A
Efficacy: 90.3 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

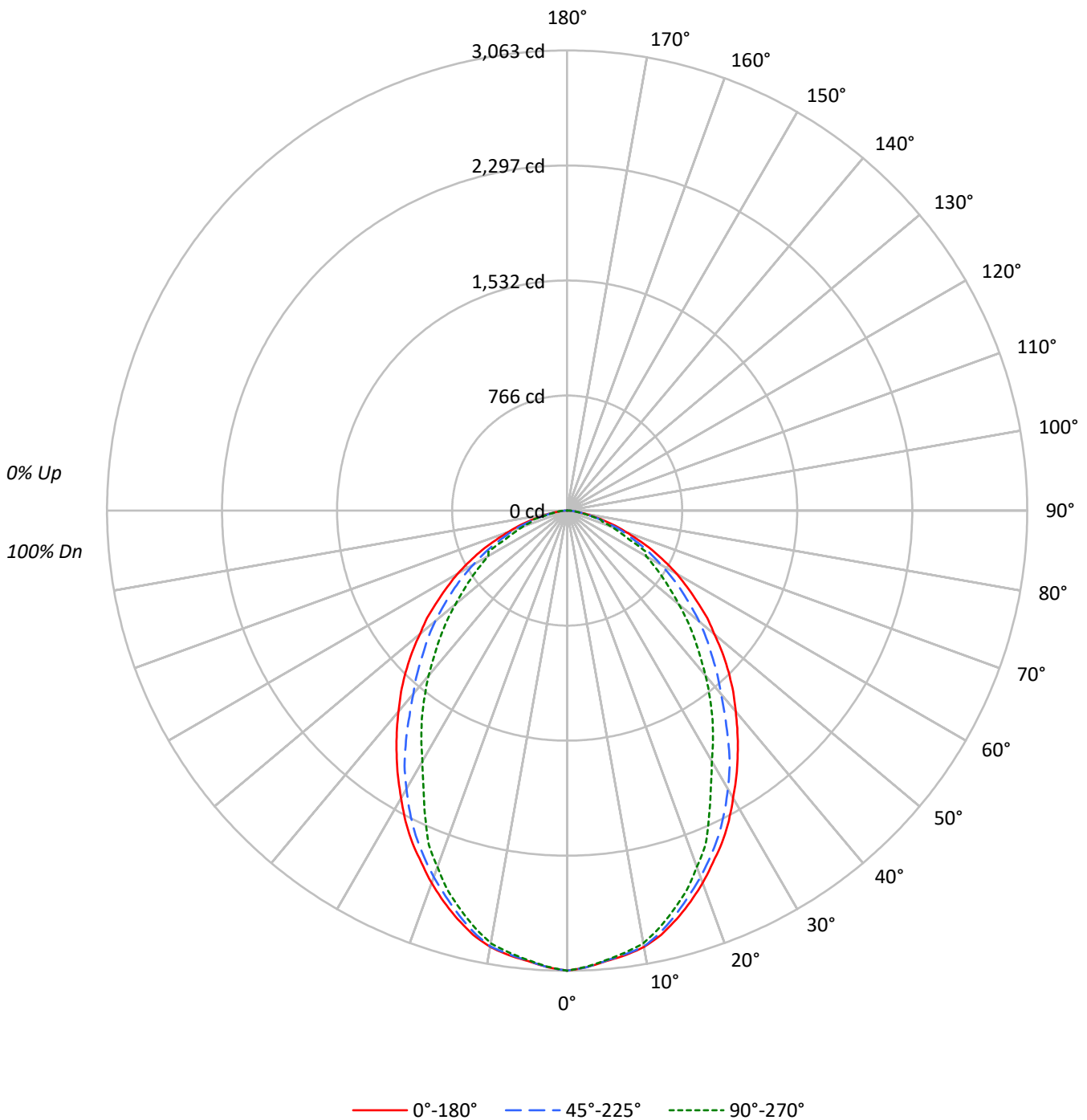
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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																												
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°	4121	4121	4121
5°	4065	4060	4056
10°	4030	4025	3996
15°	3921	3882	3828
20°	3777	3716	3615
25°	3622	3543	3322
30°	3433	3323	2993
35°	3251	3071	2768
40°	3066	2799	2519
45°	2891	2587	2277
50°	2676	2402	2031
55°	2475	2176	1819
60°	2268	1944	1629
65°	1996	1702	1443
70°	1644	1491	1226
75°	1307	1141	1197
80°	878	823	768
85°	546	656	766

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2891 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	285.1	4.7
10°-20°	782.5	13.0
20°-30°	1083.3	18.0
30°-40°	1155.1	19.2
40°-50°	1053.8	17.5
50°-60°	825.6	13.7
60°-70°	538.1	8.9
70°-80°	238.4	4.0
80°-90°	51.2	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°	2150.9	35.8
0°-40°	3306.0	55.0
0°-60°	5185.3	86.2
0°-90°	6013.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6013.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3063	3063	3063	3063	3063	
5°	3010	3006	3006	3003	3003	286
15°	2815	2815	2787	2758	2748	791
25°	2440	2426	2387	2302	2238	1120
35°	1979	1965	1870	1728	1686	1238
45°	1519	1487	1360	1246	1197	1170
55°	1055	1023	928	818	776	946
65°	627	591	535	545	453	618
75°	251	234	220	209	230	269
85°	35	39	42	46	50	49
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3062.9	3062.9	3062.9	3062.9	3062.9
2.5°	3041.7	3041.7	3041.7	3038.2	3038.2
5°	3009.8	3006.3	3006.3	3002.7	3002.7
7.5°	2985.0	2981.5	2978.0	2974.4	2967.3
10°	2949.6	2949.6	2946.1	2928.4	2924.8
12.5°	2893.0	2889.4	2875.3	2850.5	2843.4
15°	2815.1	2815.1	2786.7	2758.4	2747.8
17.5°	2730.1	2726.5	2691.1	2662.8	2648.6
20°	2638.0	2630.9	2595.5	2549.5	2524.7
22.5°	2535.3	2535.3	2492.8	2432.6	2407.9
25°	2439.7	2425.6	2386.6	2301.6	2237.9
27.5°	2330.0	2308.7	2266.2	2145.8	2071.5
30°	2209.6	2198.9	2138.7	1982.9	1926.3
32.5°	2096.3	2078.6	2014.8	1851.9	1805.9
35°	1979.4	1965.2	1869.6	1728.0	1685.5
37.5°	1862.6	1844.8	1724.5	1611.1	1558.0
40°	1745.7	1724.5	1593.4	1490.7	1434.1
42.5°	1635.9	1607.6	1480.1	1370.4	1306.6
45°	1519.1	1487.2	1359.7	1246.4	1196.8
47.5°	1402.2	1373.9	1257.0	1140.2	1083.5
50°	1278.3	1253.5	1147.3	1030.4	970.2
52.5°	1175.6	1136.7	1034.0	917.1	867.5
55°	1055.2	1023.3	927.7	818.0	775.5
57.5°	945.4	913.6	825.0	722.4	686.9
60°	842.8	796.7	722.4	633.8	605.5
62.5°	729.4	694.0	630.3	555.9	591.3
65°	626.8	591.3	534.7	545.3	453.2
67.5°	513.4	495.7	446.2	396.6	382.4
70°	417.8	396.6	378.9	325.8	311.6
72.5°	332.9	311.6	286.8	258.5	247.9
75°	251.4	233.7	219.5	208.9	230.2
77.5°	173.5	166.4	155.8	145.2	141.6
80°	113.3	109.8	106.2	102.7	99.1
82.5°	67.3	67.3	67.3	67.3	67.3
85°	35.4	39.0	42.5	46.0	49.6
87.5°	21.2	21.2	24.8	28.3	31.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)