

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: P590992

Luminaire Tested: FSR-24-2-LD4-4STD-50-UNV-93-87-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590992
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-4STD-50-UNV-93-87-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7532.0 lumens
Efficiency: N/A
Efficacy: 113.1 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

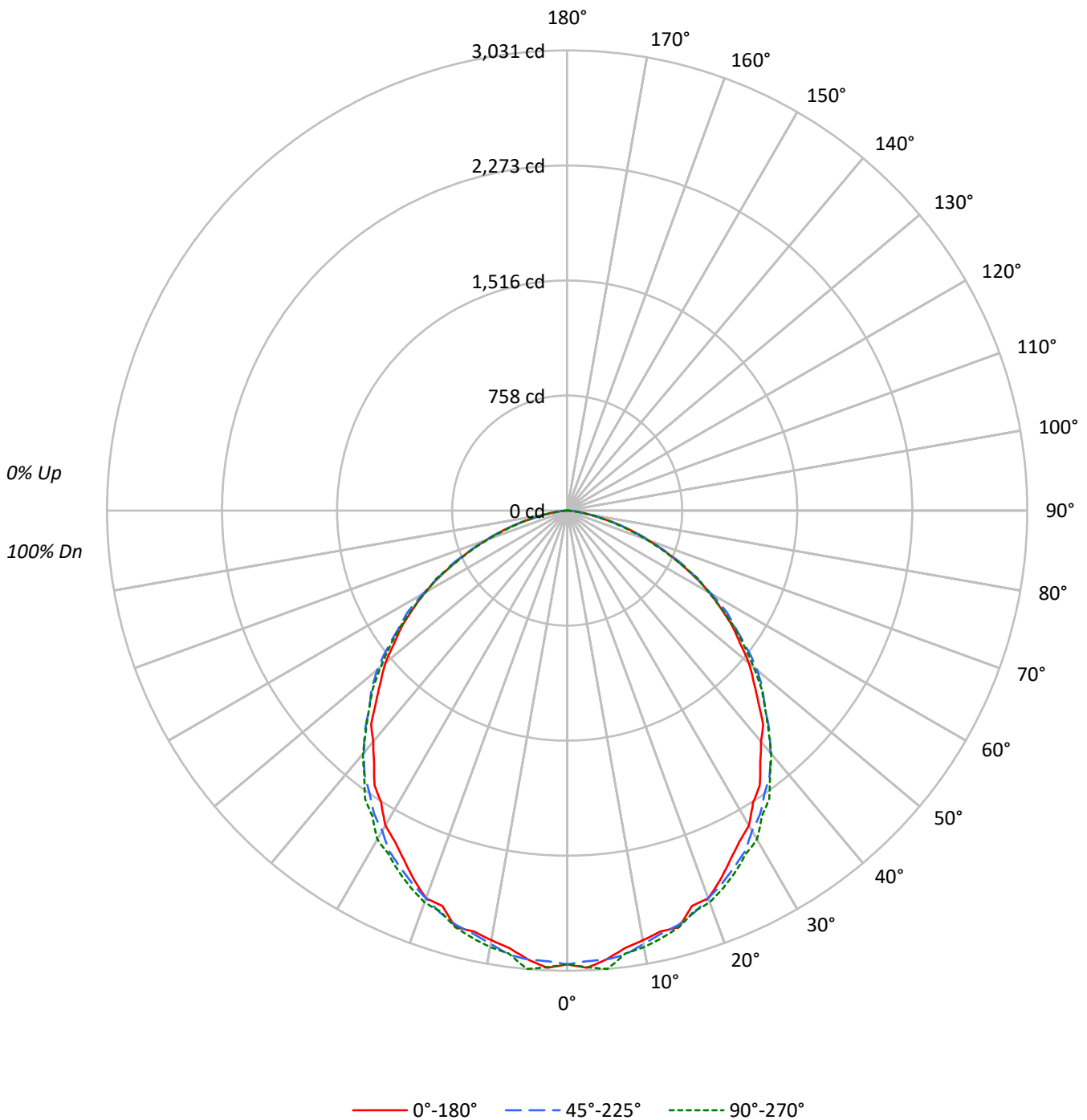
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20										
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	0														
RCR																																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100						100														
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86						86														
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73						73														
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62						62														
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53						53														
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46						46														
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41						41														
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36						36														
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32						32														
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29						29														
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26						26														

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8042	8042	8042
5°	8015	8018	8188
10°	7853	7921	7977
15°	7915	7872	7916
20°	7781	7781	7864
25°	7542	7707	7792
30°	7439	7569	7771
35°	7263	7454	7621
40°	6981	7317	7349
45°	6769	7010	7021
50°	6547	6843	6712
55°	6238	6359	6314
60°	5834	5892	5786
65°	5202	5334	5165
70°	4463	4478	4353
75°	3534	3527	3391
80°	2368	2303	2213
85°	1288	1275	1192

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 7191 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	281.1	3.7
10°-20°	796.7	10.6
20°-30°	1193.6	15.8
30°-40°	1414.7	18.8
40°-50°	1417.3	18.8
50°-60°	1203.1	16.0
60°-70°	811.1	10.8
70°-80°	356.4	4.7
80°-90°	57.9	0.8
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°	2271.5	30.2
0°-40°	3686.2	48.9
0°-60°	6306.6	83.7
0°-90°	7532.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7532.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2988	2988	2988	2988	2988	
5°	2967	2960	2968	2960	3031	280
15°	2841	2808	2826	2840	2842	792
25°	2540	2554	2596	2630	2624	1174
35°	2211	2218	2269	2321	2320	1373
45°	1779	1812	1842	1890	1845	1376
55°	1330	1321	1356	1346	1346	1183
65°	817	806	838	806	811	812
75°	340	333	339	315	326	364
85°	42	40	41	40	39	60
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2988.5	2988.5	2988.5	2988.5	2988.5
2.5°	3014.4	2991.6	2970.4	2995.1	3010.1
5°	2967.3	2960.3	2968.4	2959.6	3031.0
7.5°	2906.3	2932.9	2948.4	2938.7	2943.0
10°	2873.9	2864.6	2899.0	2922.9	2919.4
12.5°	2839.2	2853.1	2855.0	2880.9	2883.2
15°	2841.1	2808.3	2825.7	2840.3	2841.5
17.5°	2730.8	2766.3	2778.2	2811.8	2770.1
20°	2717.2	2691.4	2717.2	2751.6	2746.2
22.5°	2634.3	2605.3	2660.9	2691.4	2689.5
25°	2540.1	2554.0	2595.7	2629.7	2624.3
27.5°	2457.6	2473.8	2533.2	2579.9	2549.8
30°	2393.9	2385.8	2436.0	2477.6	2500.8
32.5°	2280.1	2309.4	2368.0	2409.3	2387.3
35°	2211.0	2217.6	2268.9	2321.4	2319.8
37.5°	2090.2	2120.7	2192.9	2207.5	2194.0
40°	1987.2	2017.7	2082.9	2098.7	2092.1
42.5°	1911.2	1916.6	1972.5	1990.7	1961.7
45°	1778.8	1812.0	1842.1	1889.6	1844.8
47.5°	1666.2	1681.6	1746.4	1759.1	1735.6
50°	1563.9	1569.3	1634.5	1618.7	1603.3
52.5°	1435.4	1458.2	1494.8	1491.7	1473.6
55°	1329.7	1320.8	1355.5	1346.3	1345.9
57.5°	1202.7	1218.2	1246.7	1232.1	1208.5
60°	1083.9	1084.3	1094.7	1078.1	1075.0
62.5°	951.5	956.2	958.5	938.0	971.2
65°	816.9	806.1	837.7	805.7	811.1
67.5°	693.0	698.4	695.3	675.3	683.0
70°	567.2	574.2	569.1	546.4	553.3
72.5°	452.2	443.7	449.1	420.6	433.7
75°	339.9	333.0	339.2	315.2	326.1
77.5°	231.5	236.9	233.1	220.3	227.7
80°	152.8	148.6	148.6	141.2	142.8
82.5°	89.1	84.9	83.7	81.4	84.9
85°	41.7	40.5	41.3	40.1	38.6
87.5°	15.0	15.4	15.4	14.7	13.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)