

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: P590996

Luminaire Tested: FSR-24-2-LD4-4STD-50-UNV-93-97-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590996
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-93-97-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7677.0 lumens
Efficiency: N/A
Efficacy: 115.3 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

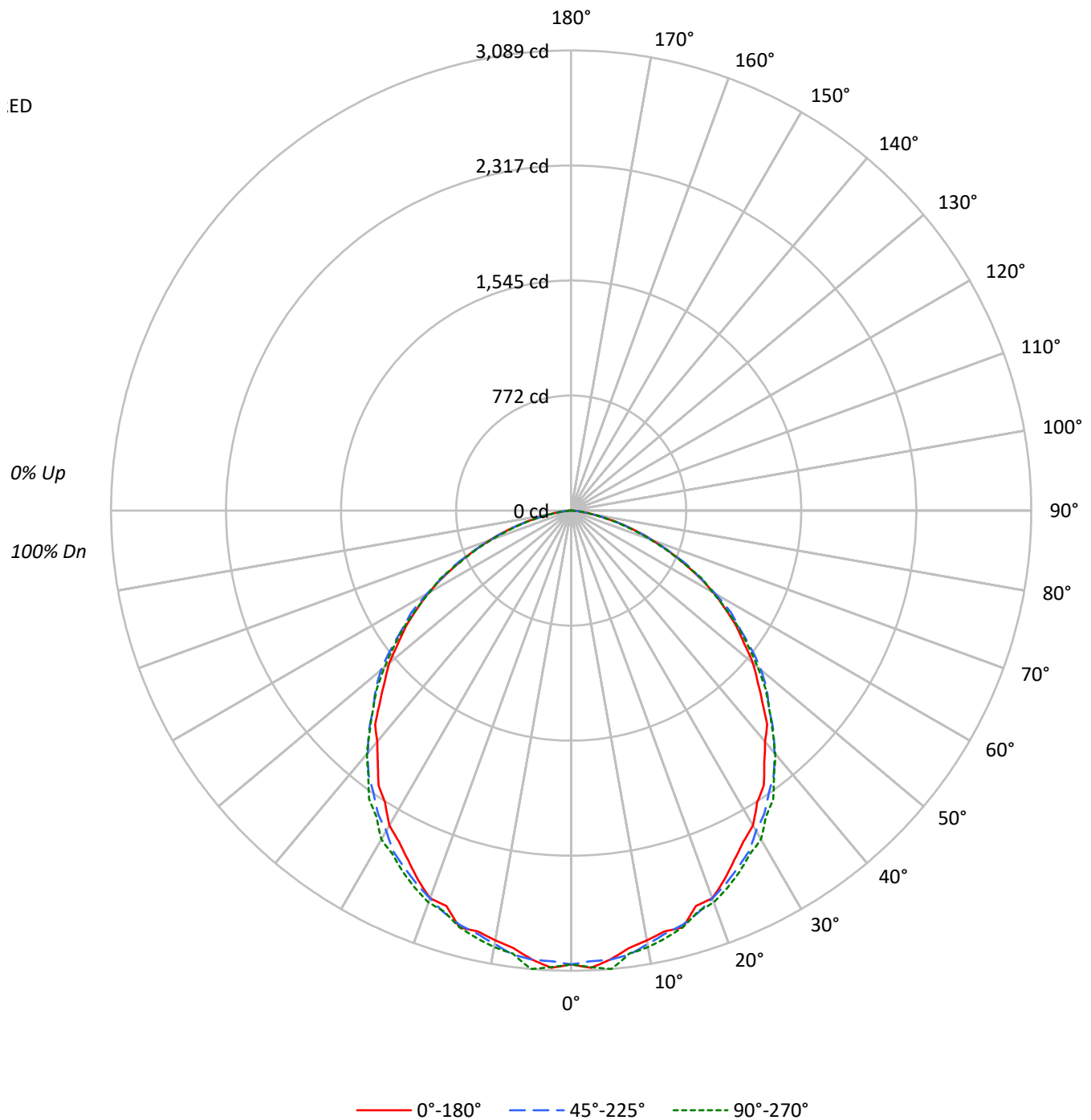
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8197	8197	8197
5°	8170	8173	8345
10°	8004	8074	8131
15°	8067	8024	8069
20°	7931	7931	8016
25°	7687	7856	7942
30°	7582	7715	7920
35°	7403	7597	7768
40°	7115	7458	7491
45°	6900	7145	7156
50°	6673	6975	6841
55°	6358	6482	6436
60°	5946	6005	5897
65°	5301	5436	5264
70°	4548	4564	4437
75°	3603	3594	3455
80°	2413	2346	2255
85°	1312	1300	1213

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 7329 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	286.5	3.7
10°-20°	812.1	10.6
20°-30°	1216.6	15.8
30°-40°	1441.9	18.8
40°-50°	1444.6	18.8
50°-60°	1226.2	16.0
60°-70°	826.7	10.8
70°-80°	363.3	4.7
80°-90°	59.0	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°	2315.2	30.2
0°-40°	3757.1	48.9
0°-60°	6428.0	83.7
0°-90°	7677.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7677.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3046	3046	3046	3046	3046	
5°	3024	3017	3026	3016	3089	285
15°	2896	2862	2880	2895	2896	807
25°	2589	2603	2646	2680	2675	1197
35°	2254	2260	2313	2366	2364	1399
45°	1813	1847	1878	1926	1880	1403
55°	1355	1346	1382	1372	1372	1206
65°	833	822	854	821	827	828
75°	346	339	346	321	332	371
85°	42	41	42	41	39	62
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3046.0	3046.0	3046.0	3046.0	3046.0
2.5°	3072.4	3049.2	3027.6	3052.7	3068.1
5°	3024.4	3017.3	3025.6	3016.5	3089.3
7.5°	2962.3	2989.4	3005.1	2995.3	2999.6
10°	2929.2	2919.8	2954.8	2979.2	2975.6
12.5°	2893.8	2908.0	2910.0	2936.3	2938.7
15°	2895.8	2862.4	2880.1	2895.0	2896.2
17.5°	2783.3	2819.5	2831.7	2865.9	2823.4
20°	2769.6	2743.2	2769.6	2804.6	2799.1
22.5°	2685.0	2655.5	2712.1	2743.2	2741.2
25°	2589.0	2603.2	2645.7	2680.3	2674.8
27.5°	2504.9	2521.4	2582.0	2629.5	2598.9
30°	2440.0	2431.7	2482.8	2525.3	2548.9
32.5°	2324.0	2353.8	2413.6	2455.7	2433.3
35°	2253.6	2260.2	2312.6	2366.0	2364.5
37.5°	2130.5	2161.5	2235.1	2250.0	2236.3
40°	2025.4	2056.5	2123.0	2139.1	2132.4
42.5°	1948.0	1953.5	2010.5	2029.0	1999.5
45°	1813.1	1846.9	1877.6	1925.9	1880.3
47.5°	1698.2	1714.0	1780.0	1793.0	1769.0
50°	1594.0	1599.5	1666.0	1649.9	1634.1
52.5°	1463.0	1486.2	1523.6	1520.5	1502.0
55°	1355.3	1346.2	1381.6	1372.2	1371.8
57.5°	1225.9	1241.6	1270.7	1255.8	1231.8
60°	1104.8	1105.1	1115.8	1098.9	1095.7
62.5°	969.9	974.6	976.9	956.1	989.9
65°	832.6	821.6	853.8	821.2	826.7
67.5°	706.4	711.9	708.7	688.3	696.1
70°	578.1	585.2	580.1	556.9	564.0
72.5°	460.9	452.3	457.8	428.7	442.1
75°	346.5	339.4	345.7	321.3	332.3
77.5°	236.0	241.5	237.5	224.6	232.0
80°	155.7	151.4	151.4	143.9	145.5
82.5°	90.9	86.5	85.3	83.0	86.5
85°	42.5	41.3	42.1	40.9	39.3
87.5°	15.3	15.7	15.7	14.9	14.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)