

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: P590949

Luminaire Tested: FSR-24-2-LD4-4STD-40-UNV-82-84-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590949
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-40-UNV-82-84-EDD
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7331.0 lumens
Efficiency: N/A
Efficacy: 110.1 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

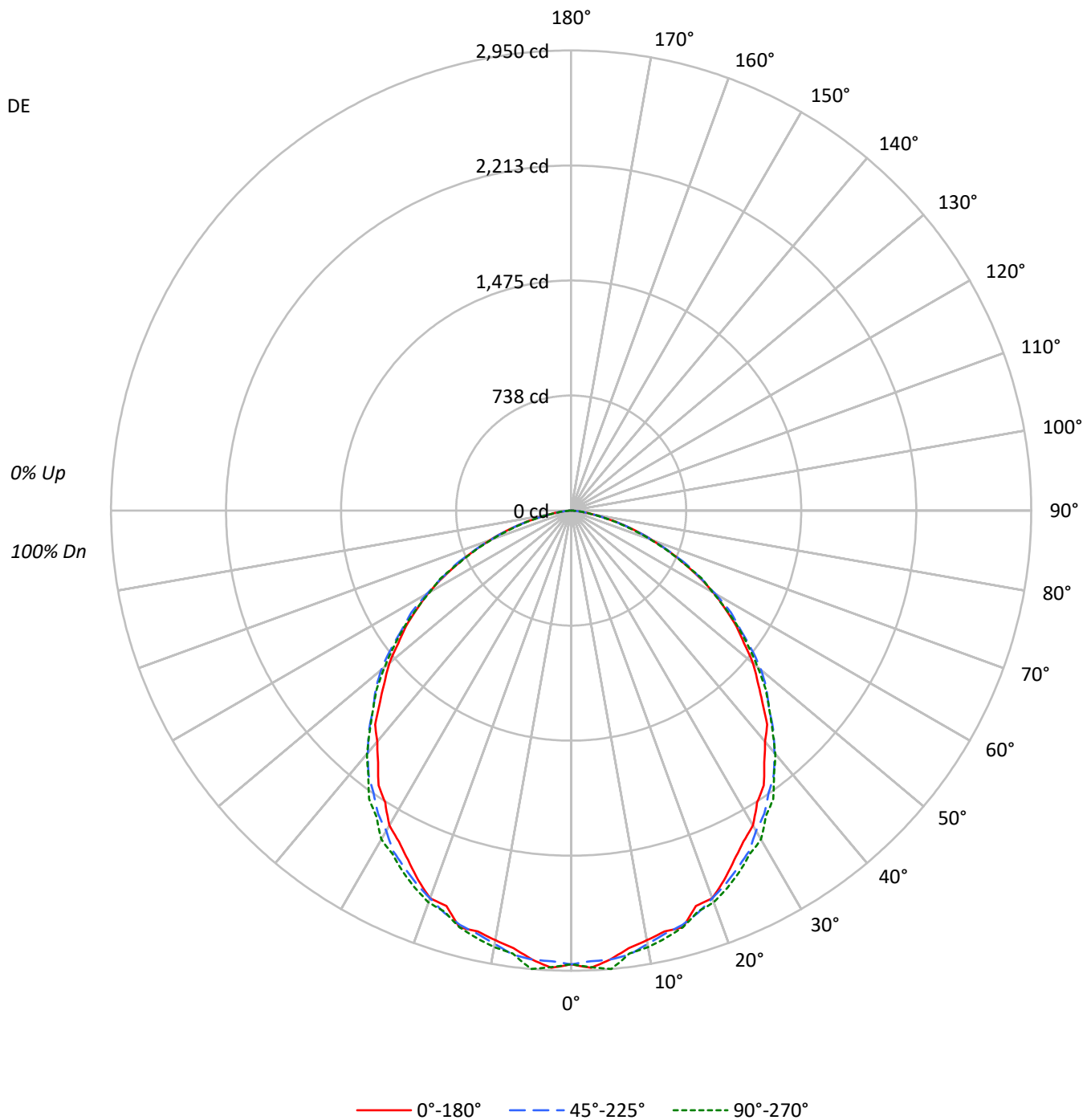
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P590949

CATALOG NUMBER: FSR-24-2-LD4-4STD-40-UNV-82-84-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P590949

CATALOG NUMBER: FSR-24-2-LD4-4STD-40-UNV-82-84-EDD

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	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°	7828	7828	7828
5°	7802	7804	7969
10°	7643	7710	7764
15°	7704	7662	7705
20°	7574	7574	7654
25°	7341	7501	7584
30°	7240	7367	7563
35°	7069	7254	7417
40°	6795	7122	7153
45°	6589	6823	6833
50°	6373	6660	6533
55°	6072	6190	6146
60°	5678	5734	5631
65°	5063	5192	5026
70°	4344	4359	4238
75°	3440	3432	3300
80°	2304	2241	2154
85°	1254	1241	1161

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 6999 cd/sqm



TEST NUMBER: P590949

CATALOG NUMBER: FSR-24-2-LD4-4STD-40-UNV-82-84-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	273.6	3.7
10°-20°	775.5	10.6
20°-30°	1161.8	15.8
30°-40°	1376.9	18.8
40°-50°	1379.5	18.8
50°-60°	1171.0	16.0
60°-70°	789.5	10.8
70°-80°	346.9	4.7
80°-90°	56.4	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°	2210.8	30.2
0°-40°	3587.8	48.9
0°-60°	6138.3	83.7
0°-90°	7331.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7331.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2909	2909	2909	2909	2909	
5°	2888	2881	2889	2881	2950	272
15°	2765	2733	2750	2764	2766	770
25°	2472	2486	2526	2560	2554	1143
35°	2152	2158	2208	2259	2258	1336
45°	1731	1764	1793	1839	1796	1339
55°	1294	1286	1319	1310	1310	1151
65°	795	785	815	784	789	791
75°	331	324	330	307	317	355
85°	41	39	40	39	38	59
90°	0	0	0	0	0	



TEST NUMBER: P590949

CATALOG NUMBER: FSR-24-2-LD4-4STD-40-UNV-82-84-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2908.8	2908.8	2908.8	2908.8	2908.8
2.5°	2933.9	2911.8	2891.1	2915.1	2929.8
5°	2888.1	2881.3	2889.2	2880.6	2950.1
7.5°	2828.8	2854.7	2869.7	2860.3	2864.4
10°	2797.2	2788.2	2821.6	2844.9	2841.5
12.5°	2763.4	2776.9	2778.8	2804.0	2806.2
15°	2765.3	2733.4	2750.3	2764.5	2765.7
17.5°	2657.9	2692.4	2704.1	2736.7	2696.2
20°	2644.7	2619.6	2644.7	2678.2	2672.9
22.5°	2564.0	2535.8	2589.9	2619.6	2617.7
25°	2472.3	2485.9	2526.4	2559.5	2554.2
27.5°	2392.0	2407.8	2465.6	2511.0	2481.7
30°	2330.0	2322.1	2370.9	2411.5	2434.0
32.5°	2219.2	2247.8	2304.8	2345.0	2323.6
35°	2152.0	2158.4	2208.3	2259.4	2257.9
37.5°	2034.4	2064.1	2134.3	2148.6	2135.5
40°	1934.2	1963.8	2027.3	2042.7	2036.3
42.5°	1860.2	1865.4	1919.9	1937.5	1909.4
45°	1731.4	1763.7	1793.0	1839.1	1795.6
47.5°	1621.7	1636.7	1699.8	1712.2	1689.3
50°	1522.2	1527.4	1590.9	1575.5	1560.5
52.5°	1397.1	1419.3	1454.9	1451.9	1434.3
55°	1294.2	1285.6	1319.4	1310.3	1310.0
57.5°	1170.6	1185.7	1213.5	1199.2	1176.3
60°	1055.0	1055.3	1065.5	1049.3	1046.3
62.5°	926.1	930.7	932.9	913.0	945.3
65°	795.1	784.6	815.4	784.2	789.4
67.5°	674.5	679.8	676.8	657.2	664.8
70°	552.1	558.8	554.0	531.8	538.6
72.5°	440.2	431.9	437.2	409.4	422.1
75°	330.9	324.1	330.1	306.8	317.4
77.5°	225.3	230.6	226.8	214.4	221.6
80°	148.7	144.6	144.6	137.5	139.0
82.5°	86.8	82.6	81.5	79.2	82.6
85°	40.6	39.4	40.2	39.1	37.6
87.5°	14.6	15.0	15.0	14.3	13.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)