

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: P590961

Luminaire Tested: FSR-24-2-LD4-4STD-40-UNV-93-88-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590961
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-93-88-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6669.0 lumens
Efficiency: N/A
Efficacy: 100.1 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

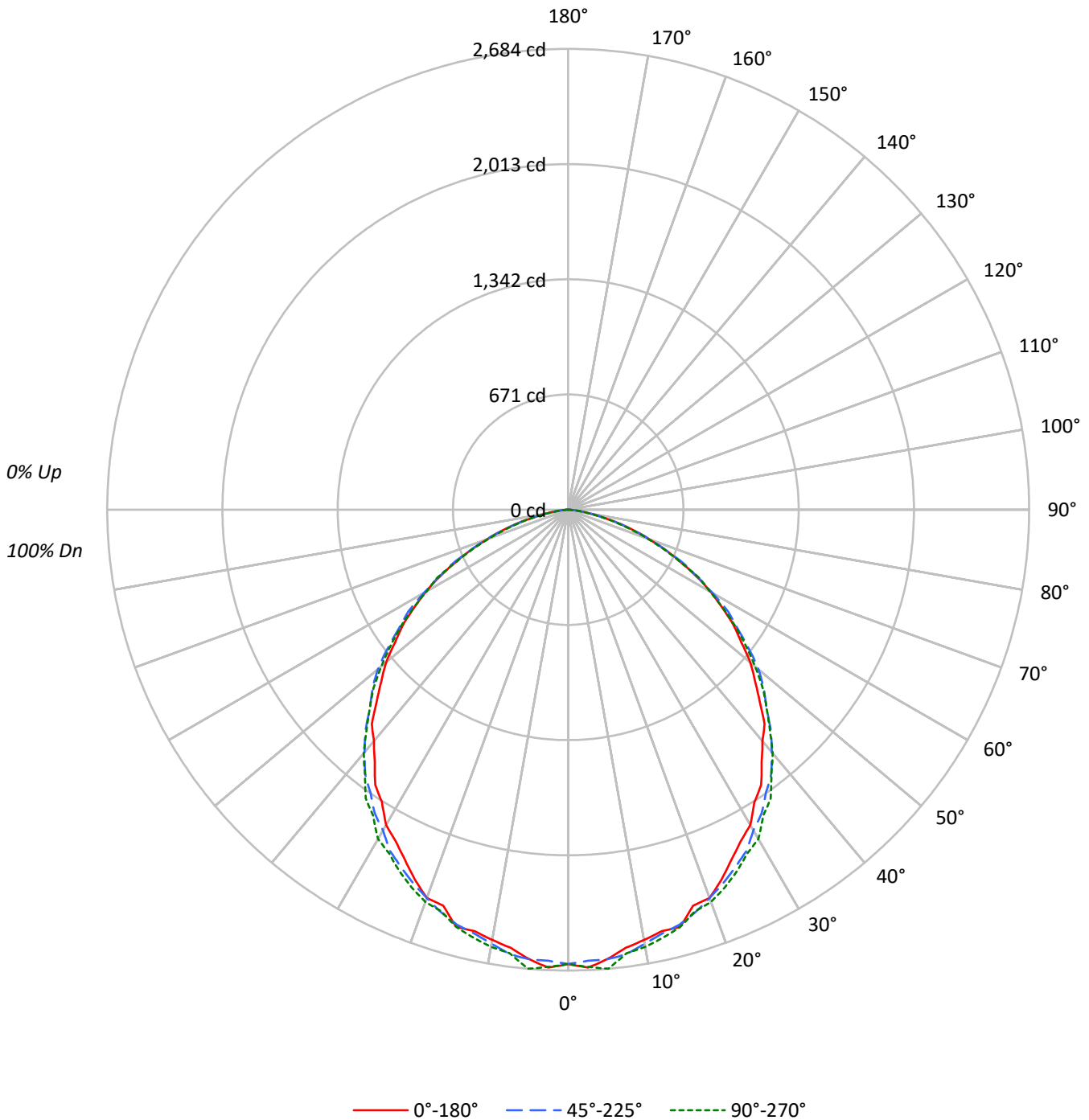
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				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	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°	7121	7121	7121
5°	7097	7100	7249
10°	6953	7014	7063
15°	7008	6970	7009
20°	6890	6890	6963
25°	6678	6824	6899
30°	6586	6702	6880
35°	6431	6599	6748
40°	6181	6478	6507
45°	5994	6207	6216
50°	5797	6059	5943
55°	5523	5631	5591
60°	5165	5217	5123
65°	4606	4723	4573
70°	3951	3965	3854
75°	3130	3122	3002
80°	2097	2038	1959
85°	1139	1130	1056

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 6367 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	248.9	3.7
10°-20°	705.4	10.6
20°-30°	1056.9	15.8
30°-40°	1252.6	18.8
40°-50°	1254.9	18.8
50°-60°	1065.2	16.0
60°-70°	718.2	10.8
70°-80°	315.6	4.7
80°-90°	51.3	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°	2011.2	30.2
0°-40°	3263.8	48.9
0°-60°	5584.0	83.7
0°-90°	6669.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6669.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2646	2646	2646	2646	2646	
5°	2627	2621	2628	2620	2684	248
15°	2516	2486	2502	2515	2516	701
25°	2249	2261	2298	2328	2324	1040
35°	1958	1964	2009	2055	2054	1215
45°	1575	1604	1631	1673	1633	1218
55°	1177	1170	1200	1192	1192	1047
65°	723	714	742	713	718	719
75°	301	295	300	279	289	323
85°	37	36	37	36	34	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2646.1	2646.1	2646.1	2646.1	2646.1
2.5°	2669.0	2648.8	2630.0	2651.9	2665.2
5°	2627.3	2621.2	2628.3	2620.5	2683.7
7.5°	2573.3	2596.9	2610.6	2602.0	2605.8
10°	2544.6	2536.4	2566.8	2588.0	2584.9
12.5°	2513.9	2526.2	2527.9	2550.8	2552.8
15°	2515.6	2486.5	2501.9	2514.9	2515.9
17.5°	2417.9	2449.3	2459.9	2489.6	2452.7
20°	2405.9	2383.0	2405.9	2436.3	2431.5
22.5°	2332.5	2306.8	2356.0	2383.0	2381.3
25°	2249.1	2261.4	2298.3	2328.4	2323.6
27.5°	2176.0	2190.3	2242.9	2284.3	2257.6
30°	2119.6	2112.4	2156.8	2193.7	2214.2
32.5°	2018.8	2044.8	2096.7	2133.3	2113.8
35°	1957.7	1963.5	2008.9	2055.4	2054.0
37.5°	1850.7	1877.7	1941.6	1954.6	1942.6
40°	1759.5	1786.5	1844.2	1858.2	1852.4
42.5°	1692.2	1697.0	1746.5	1762.6	1737.0
45°	1575.0	1604.4	1631.0	1673.1	1633.4
47.5°	1475.3	1488.9	1546.3	1557.6	1536.7
50°	1384.7	1389.5	1447.2	1433.2	1419.6
52.5°	1270.9	1291.1	1323.6	1320.8	1304.8
55°	1177.3	1169.5	1200.2	1192.0	1191.7
57.5°	1064.9	1078.6	1103.9	1090.9	1070.1
60°	959.7	960.0	969.3	954.6	951.8
62.5°	842.5	846.6	848.7	830.6	859.9
65°	723.3	713.7	741.7	713.4	718.2
67.5°	613.6	618.4	615.7	597.9	604.7
70°	502.2	508.4	503.9	483.8	489.9
72.5°	400.4	392.9	397.7	372.4	384.0
75°	301.0	294.8	300.3	279.1	288.7
77.5°	205.0	209.8	206.4	195.1	201.6
80°	135.3	131.5	131.5	125.0	126.4
82.5°	78.9	75.2	74.1	72.1	75.2
85°	36.9	35.9	36.6	35.5	34.2
87.5°	13.3	13.7	13.7	13.0	12.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)