

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: P590451

Luminaire Tested: FSR-24-2-LD4-3HI-35-UNV-93-96-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590451
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-LD4-3HI-35-UNV-93-96-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7131.0 lumens
Efficiency: N/A
Efficacy: 110.0 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

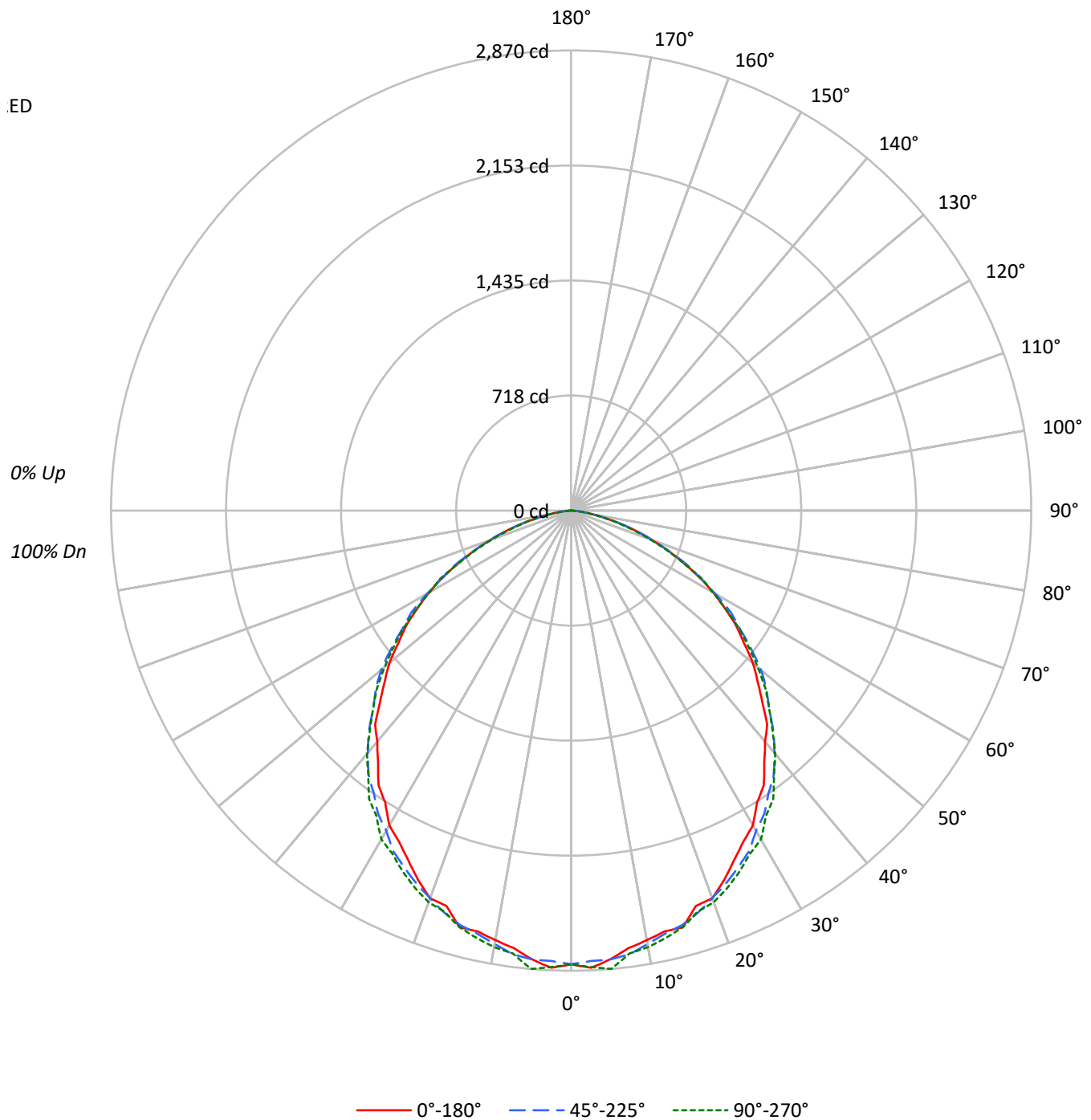
Input Watts (W): 64.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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													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°	7614	7614	7614
5°	7589	7592	7752
10°	7435	7500	7553
15°	7494	7453	7495
20°	7367	7367	7446
25°	7141	7297	7377
30°	7042	7166	7357
35°	6877	7057	7215
40°	6609	6927	6958
45°	6409	6637	6647
50°	6198	6478	6355
55°	5906	6021	5978
60°	5523	5578	5478
65°	4925	5050	4890
70°	4225	4239	4122
75°	3346	3339	3210
80°	2242	2179	2095
85°	1220	1207	1127

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 6808 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	266.1	3.7
10°-20°	754.3	10.6
20°-30°	1130.1	15.8
30°-40°	1339.4	18.8
40°-50°	1341.9	18.8
50°-60°	1139.0	16.0
60°-70°	767.9	10.8
70°-80°	337.4	4.7
80°-90°	54.8	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°	2150.5	30.2
0°-40°	3489.9	48.9
0°-60°	5970.8	83.7
0°-90°	7131.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7131.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2829	2829	2829	2829	2829	
5°	2809	2803	2810	2802	2870	265
15°	2690	2659	2675	2689	2690	749
25°	2405	2418	2458	2490	2484	1112
35°	2093	2100	2148	2198	2196	1300
45°	1684	1716	1744	1789	1747	1303
55°	1259	1250	1283	1275	1274	1120
65°	773	763	793	763	768	769
75°	322	315	321	298	309	345
85°	40	38	39	38	36	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2829.4	2829.4	2829.4	2829.4	2829.4
2.5°	2853.9	2832.3	2812.2	2835.6	2849.9
5°	2809.3	2802.7	2810.4	2802.0	2869.6
7.5°	2751.6	2776.8	2791.4	2782.3	2786.3
10°	2720.9	2712.1	2744.6	2767.3	2764.0
12.5°	2688.0	2701.2	2703.0	2727.5	2729.7
15°	2689.8	2658.8	2675.2	2689.1	2690.2
17.5°	2585.4	2619.0	2630.3	2662.1	2622.6
20°	2572.6	2548.1	2572.6	2605.1	2600.0
22.5°	2494.0	2466.6	2519.2	2548.1	2546.3
25°	2404.9	2418.1	2457.5	2489.7	2484.5
27.5°	2326.7	2342.1	2398.3	2442.5	2414.0
30°	2266.4	2258.8	2306.3	2345.7	2367.6
32.5°	2158.7	2186.4	2242.0	2281.1	2260.2
35°	2093.3	2099.5	2148.1	2197.8	2196.3
37.5°	1978.9	2007.8	2076.1	2090.0	2077.2
40°	1881.4	1910.3	1972.0	1987.0	1980.8
42.5°	1809.4	1814.5	1867.5	1884.7	1857.3
45°	1684.1	1715.5	1744.0	1789.0	1746.6
47.5°	1577.5	1592.1	1653.4	1665.5	1643.2
50°	1480.6	1485.8	1547.5	1532.5	1517.9
52.5°	1359.0	1380.5	1415.2	1412.3	1395.2
55°	1258.9	1250.5	1283.4	1274.6	1274.2
57.5°	1138.7	1153.3	1180.3	1166.5	1144.2
60°	1026.2	1026.5	1036.4	1020.7	1017.8
62.5°	900.9	905.3	907.5	888.1	919.5
65°	773.4	763.2	793.1	762.8	767.9
67.5°	656.1	661.2	658.3	639.3	646.6
70°	537.0	543.6	538.8	517.3	523.9
72.5°	428.2	420.1	425.2	398.2	410.6
75°	321.8	315.3	321.1	298.5	308.7
77.5°	219.2	224.3	220.7	208.6	215.5
80°	144.7	140.6	140.6	133.7	135.2
82.5°	84.4	80.4	79.3	77.1	80.4
85°	39.5	38.4	39.1	38.0	36.5
87.5°	14.2	14.6	14.6	13.9	13.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)