

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: P590948

Luminaire Tested: FSR-24-2-LD4-4STD-40-UNV-81-97-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590948
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-81-97-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7157.0 lumens
Efficiency: N/A
Efficacy: 107.5 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

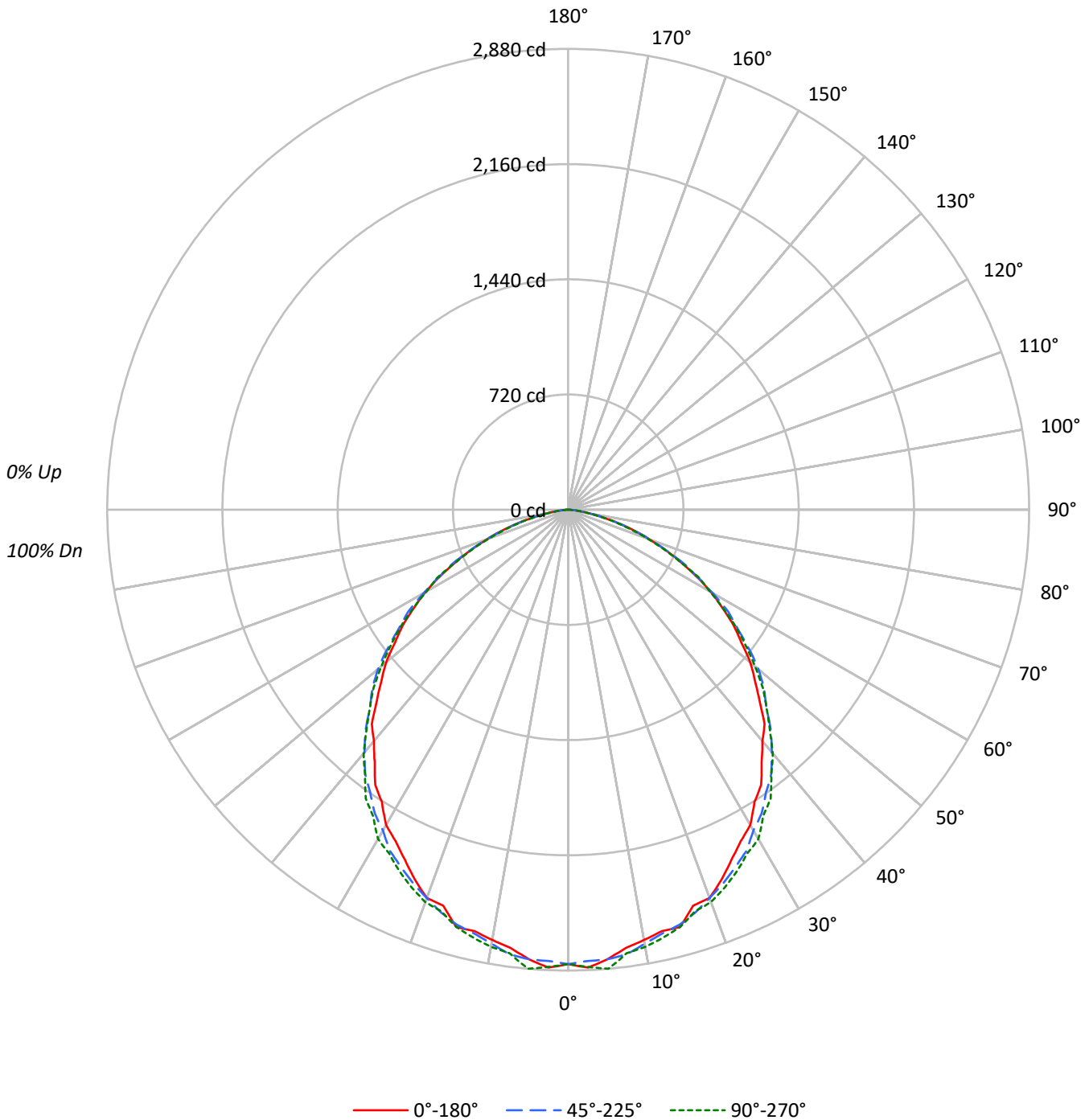
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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				
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°	7642	7642	7642
5°	7616	7619	7780
10°	7462	7527	7580
15°	7521	7480	7522
20°	7394	7394	7473
25°	7167	7323	7404
30°	7068	7192	7384
35°	6902	7082	7241
40°	6633	6953	6983
45°	6433	6661	6671
50°	6221	6502	6378
55°	5928	6043	6000
60°	5543	5598	5498
65°	4942	5068	4907
70°	4241	4255	4137
75°	3358	3351	3221
80°	2250	2188	2103
85°	1223	1210	1133

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 6833 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	267.1	3.7
10°-20°	757.0	10.6
20°-30°	1134.2	15.8
30°-40°	1344.3	18.8
40°-50°	1346.8	18.8
50°-60°	1143.2	16.0
60°-70°	770.7	10.8
70°-80°	338.7	4.7
80°-90°	55.0	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°	2158.4	30.2
0°-40°	3502.6	48.9
0°-60°	5992.6	83.7
0°-90°	7157.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7157.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2840	2840	2840	2840	2840	
5°	2820	2813	2821	2812	2880	266
15°	2700	2668	2685	2699	2700	752
25°	2414	2427	2466	2499	2494	1116
35°	2101	2107	2156	2206	2204	1304
45°	1690	1722	1750	1796	1753	1308
55°	1264	1255	1288	1279	1279	1124
65°	776	766	796	766	771	772
75°	323	316	322	300	310	346
85°	40	38	39	38	37	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2839.7	2839.7	2839.7	2839.7	2839.7
2.5°	2864.3	2842.7	2822.5	2845.9	2860.2
5°	2819.6	2813.0	2820.7	2812.2	2880.0
7.5°	2761.6	2786.9	2801.6	2792.4	2796.5
10°	2730.8	2722.0	2754.7	2777.4	2774.1
12.5°	2697.8	2711.0	2712.9	2737.4	2739.6
15°	2699.7	2668.5	2685.0	2698.9	2700.0
17.5°	2594.8	2628.5	2639.9	2671.8	2632.2
20°	2582.0	2557.4	2582.0	2614.6	2609.5
22.5°	2503.1	2475.6	2528.4	2557.4	2555.6
25°	2413.7	2426.9	2466.5	2498.7	2493.6
27.5°	2335.2	2350.6	2407.1	2451.4	2422.8
30°	2274.7	2267.0	2314.7	2354.3	2376.3
32.5°	2166.5	2194.4	2250.1	2289.4	2268.5
35°	2100.9	2107.1	2155.9	2205.8	2204.3
37.5°	1986.2	2015.1	2083.7	2097.6	2084.8
40°	1888.3	1917.2	1979.2	1994.2	1988.0
42.5°	1816.0	1821.2	1874.3	1891.6	1864.1
45°	1690.3	1721.8	1750.4	1795.5	1753.0
47.5°	1583.2	1597.9	1659.5	1671.6	1649.2
50°	1486.0	1491.2	1553.1	1538.1	1523.4
52.5°	1363.9	1385.6	1420.4	1417.5	1400.2
55°	1263.5	1255.0	1288.0	1279.2	1278.9
57.5°	1142.9	1157.5	1184.7	1170.7	1148.4
60°	1029.9	1030.3	1040.2	1024.4	1021.5
62.5°	904.2	908.6	910.8	891.3	922.9
65°	776.2	765.9	796.0	765.6	770.7
67.5°	658.5	663.6	660.7	641.6	649.0
70°	539.0	545.6	540.8	519.2	525.8
72.5°	429.7	421.6	426.8	399.7	412.1
75°	323.0	316.4	322.3	299.6	309.8
77.5°	220.0	225.1	221.5	209.4	216.3
80°	145.2	141.2	141.2	134.2	135.7
82.5°	84.7	80.7	79.6	77.4	80.7
85°	39.6	38.5	39.2	38.1	36.7
87.5°	14.3	14.7	14.7	13.9	13.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)