

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: P590951

Luminaire Tested: FSR-24-2-LD4-4STD-40-UNV-82-86-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590951
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-82-86-EDD
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7104.0 lumens
Efficiency: N/A
Efficacy: 106.7 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

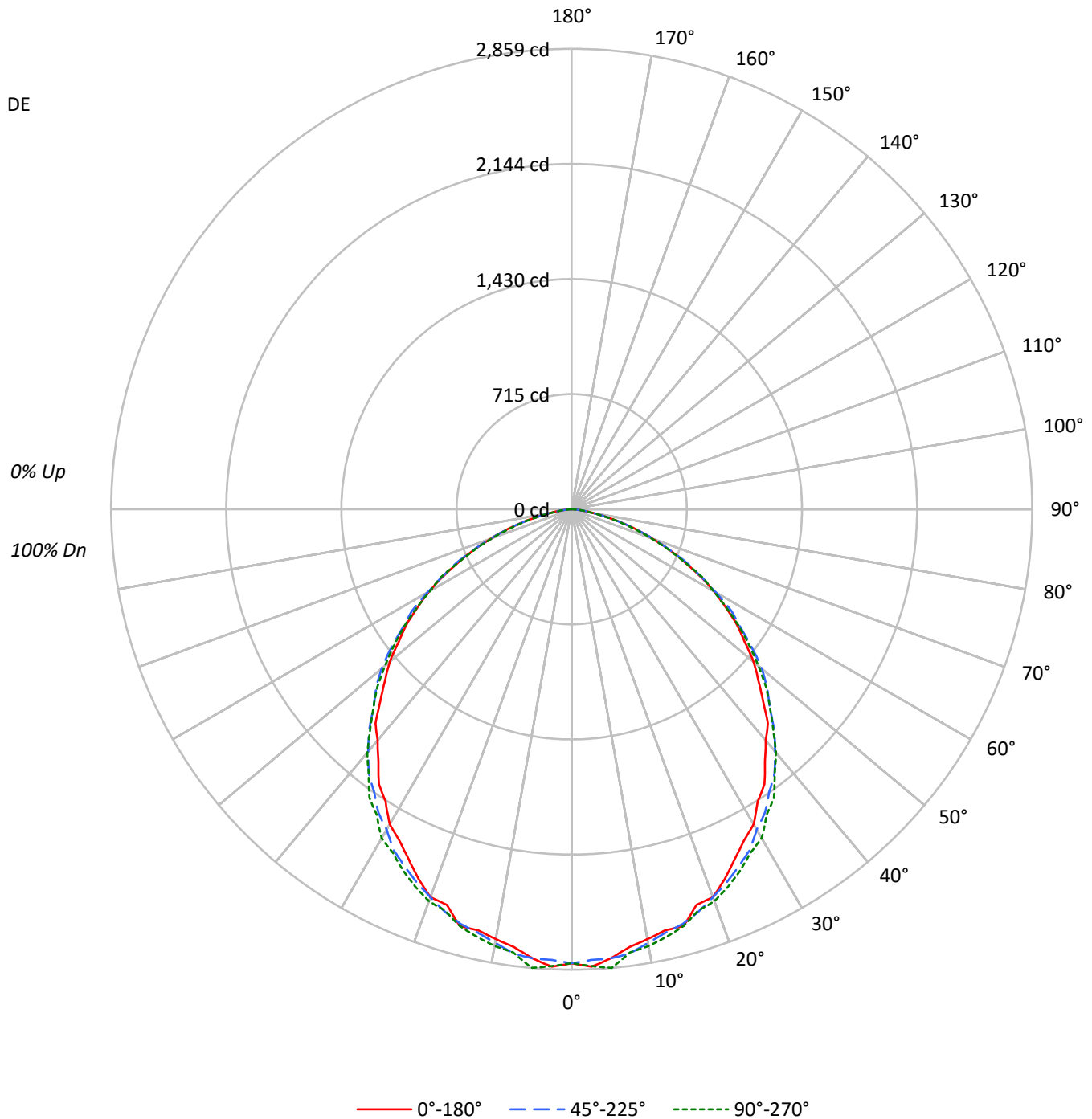
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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					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°	7585	7585	7585
5°	7560	7563	7722
10°	7407	7471	7524
15°	7465	7425	7466
20°	7339	7339	7417
25°	7114	7269	7349
30°	7016	7139	7329
35°	6851	7030	7188
40°	6584	6901	6932
45°	6385	6612	6622
50°	6175	6454	6331
55°	5884	5998	5955
60°	5502	5557	5457
65°	4906	5031	4871
70°	4209	4223	4106
75°	3333	3326	3197
80°	2233	2171	2087
85°	1213	1201	1124

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 6782 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	265.1	3.7
10°-20°	751.4	10.6
20°-30°	1125.8	15.8
30°-40°	1334.3	18.8
40°-50°	1336.8	18.8
50°-60°	1134.7	16.0
60°-70°	765.0	10.8
70°-80°	336.1	4.7
80°-90°	54.6	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°	2142.4	30.2
0°-40°	3476.7	48.9
0°-60°	5948.2	83.7
0°-90°	7104.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7104.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2819	2819	2819	2819	2819	
5°	2799	2792	2800	2791	2859	264
15°	2680	2649	2665	2679	2680	747
25°	2396	2409	2448	2480	2475	1108
35°	2085	2092	2140	2189	2188	1295
45°	1678	1709	1737	1782	1740	1298
55°	1254	1246	1278	1270	1269	1116
65°	770	760	790	760	765	766
75°	321	314	320	297	308	344
85°	39	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°	2818.7	2818.7	2818.7	2818.7	2818.7
2.5°	2843.1	2821.6	2801.6	2824.9	2839.1
5°	2798.7	2792.1	2799.8	2791.4	2858.7
7.5°	2741.2	2766.3	2780.8	2771.7	2775.7
10°	2710.6	2701.9	2734.3	2756.8	2753.5
12.5°	2677.8	2690.9	2692.8	2717.1	2719.3
15°	2679.7	2648.7	2665.1	2678.9	2680.0
17.5°	2575.6	2609.1	2620.3	2652.0	2612.7
20°	2562.8	2538.5	2562.8	2595.2	2590.1
22.5°	2484.6	2457.3	2509.7	2538.5	2536.6
25°	2395.8	2408.9	2448.2	2480.2	2475.1
27.5°	2317.9	2333.2	2389.2	2433.3	2404.9
30°	2257.9	2250.2	2297.5	2336.8	2358.7
32.5°	2150.5	2178.2	2233.5	2272.4	2251.7
35°	2085.4	2091.5	2139.9	2189.4	2188.0
37.5°	1971.4	2000.2	2068.3	2082.1	2069.3
40°	1874.3	1903.0	1964.5	1979.5	1973.3
42.5°	1802.6	1807.7	1860.4	1877.5	1850.3
45°	1677.7	1709.0	1737.4	1782.2	1740.0
47.5°	1571.5	1586.0	1647.2	1659.2	1637.0
50°	1475.0	1480.1	1541.6	1526.7	1512.2
52.5°	1353.8	1375.3	1409.9	1407.0	1389.9
55°	1254.1	1245.8	1278.5	1269.8	1269.4
57.5°	1134.4	1148.9	1175.9	1162.0	1139.8
60°	1022.3	1022.7	1032.5	1016.8	1013.9
62.5°	897.5	901.8	904.0	884.7	916.0
65°	770.5	760.3	790.1	759.9	765.0
67.5°	653.6	658.7	655.8	636.9	644.2
70°	535.0	541.5	536.8	515.3	521.9
72.5°	426.5	418.5	423.6	396.7	409.1
75°	320.6	314.1	319.9	297.3	307.5
77.5°	218.4	223.5	219.8	207.8	214.7
80°	144.1	140.1	140.1	133.2	134.7
82.5°	84.1	80.1	79.0	76.8	80.1
85°	39.3	38.2	38.9	37.8	36.4
87.5°	14.2	14.6	14.6	13.8	13.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)