

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: P590801

Luminaire Tested: FSR-24-2-LD4-4HI-50-UNV-93-88-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590801
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-LD4-4HI-50-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 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8319.0 lumens
Efficiency: N/A
Efficacy: 96.3 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

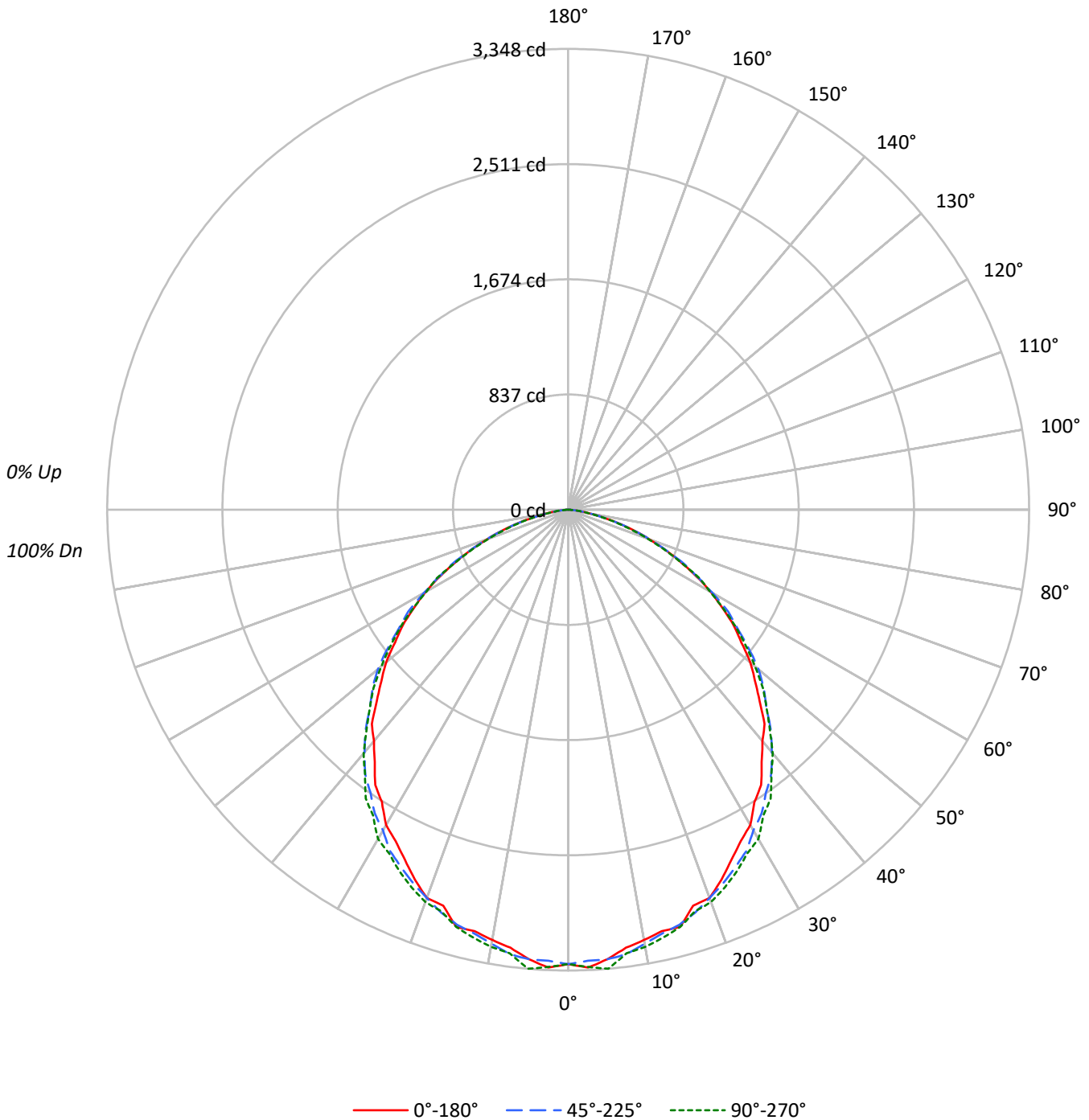
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8882	8882	8882
5°	8853	8856	9043
10°	8673	8749	8811
15°	8742	8695	8743
20°	8594	8594	8686
25°	8330	8512	8606
30°	8216	8360	8583
35°	8022	8232	8417
40°	7710	8081	8117
45°	7477	7743	7754
50°	7231	7558	7413
55°	6890	7024	6974
60°	6443	6507	6390
65°	5745	5891	5704
70°	4929	4946	4808
75°	3904	3895	3744
80°	2616	2543	2444
85°	1420	1408	1315

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 7942 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	310.5	3.7
10°-20°	880.0	10.6
20°-30°	1318.4	15.8
30°-40°	1562.5	18.8
40°-50°	1565.4	18.8
50°-60°	1328.8	16.0
60°-70°	895.9	10.8
70°-80°	393.6	4.7
80°-90°	64.0	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°	2508.8	30.2
0°-40°	4071.3	48.9
0°-60°	6965.5	83.7
0°-90°	8319.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8319.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3301	3301	3301	3301	3301	
5°	3277	3270	3279	3269	3348	309
15°	3138	3102	3121	3137	3138	874
25°	2806	2821	2867	2904	2898	1297
35°	2442	2449	2506	2564	2562	1516
45°	1965	2001	2035	2087	2038	1520
55°	1469	1459	1497	1487	1486	1306
65°	902	890	925	890	896	897
75°	376	368	375	348	360	402
85°	46	45	46	44	43	67
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3300.8	3300.8	3300.8	3300.8	3300.8
2.5°	3329.3	3304.2	3280.7	3308.0	3324.6
5°	3277.3	3269.7	3278.6	3268.8	3347.6
7.5°	3210.0	3239.4	3256.4	3245.8	3250.5
10°	3174.2	3164.0	3201.9	3228.3	3224.5
12.5°	3135.8	3151.2	3153.3	3181.9	3184.4
15°	3138.0	3101.7	3120.9	3137.1	3138.4
17.5°	3016.1	3055.3	3068.5	3105.6	3059.6
20°	3001.2	2972.6	3001.2	3039.1	3033.1
22.5°	2909.5	2877.6	2938.9	2972.6	2970.5
25°	2805.5	2820.9	2866.9	2904.4	2898.5
27.5°	2714.3	2732.2	2797.9	2849.4	2816.2
30°	2644.0	2635.1	2690.5	2736.5	2762.1
32.5°	2518.3	2550.7	2615.5	2661.1	2636.8
35°	2442.0	2449.3	2505.9	2563.9	2562.2
37.5°	2308.6	2342.3	2422.0	2438.2	2423.3
40°	2194.8	2228.5	2300.5	2318.0	2310.8
42.5°	2110.9	2116.8	2178.6	2198.7	2166.7
45°	1964.7	2001.3	2034.6	2087.0	2037.6
47.5°	1840.2	1857.3	1928.9	1943.0	1917.0
50°	1727.3	1733.3	1805.3	1787.8	1770.8
52.5°	1585.4	1610.5	1651.0	1647.6	1627.6
55°	1468.6	1458.8	1497.2	1486.9	1486.5
57.5°	1328.4	1345.5	1377.0	1360.8	1334.8
60°	1197.1	1197.6	1209.1	1190.7	1187.3
62.5°	1051.0	1056.1	1058.6	1036.0	1072.7
65°	902.2	890.3	925.2	889.9	895.8
67.5°	765.4	771.4	768.0	745.8	754.3
70°	626.5	634.2	628.6	603.5	611.1
72.5°	499.5	490.1	496.1	464.5	479.0
75°	375.5	367.8	374.6	348.2	360.1
77.5°	255.7	261.7	257.4	243.3	251.4
80°	168.8	164.1	164.1	156.0	157.7
82.5°	98.4	93.8	92.5	89.9	93.8
85°	46.0	44.7	45.6	44.3	42.6
87.5°	16.6	17.0	17.0	16.2	15.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)