

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: P590767

Luminaire Tested: FSR-24-2-LD4-4HI-40-UNV-93-86-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590767
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-40-UNV-93-86-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9389.0 lumens
Efficiency: N/A
Efficacy: 108.7 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

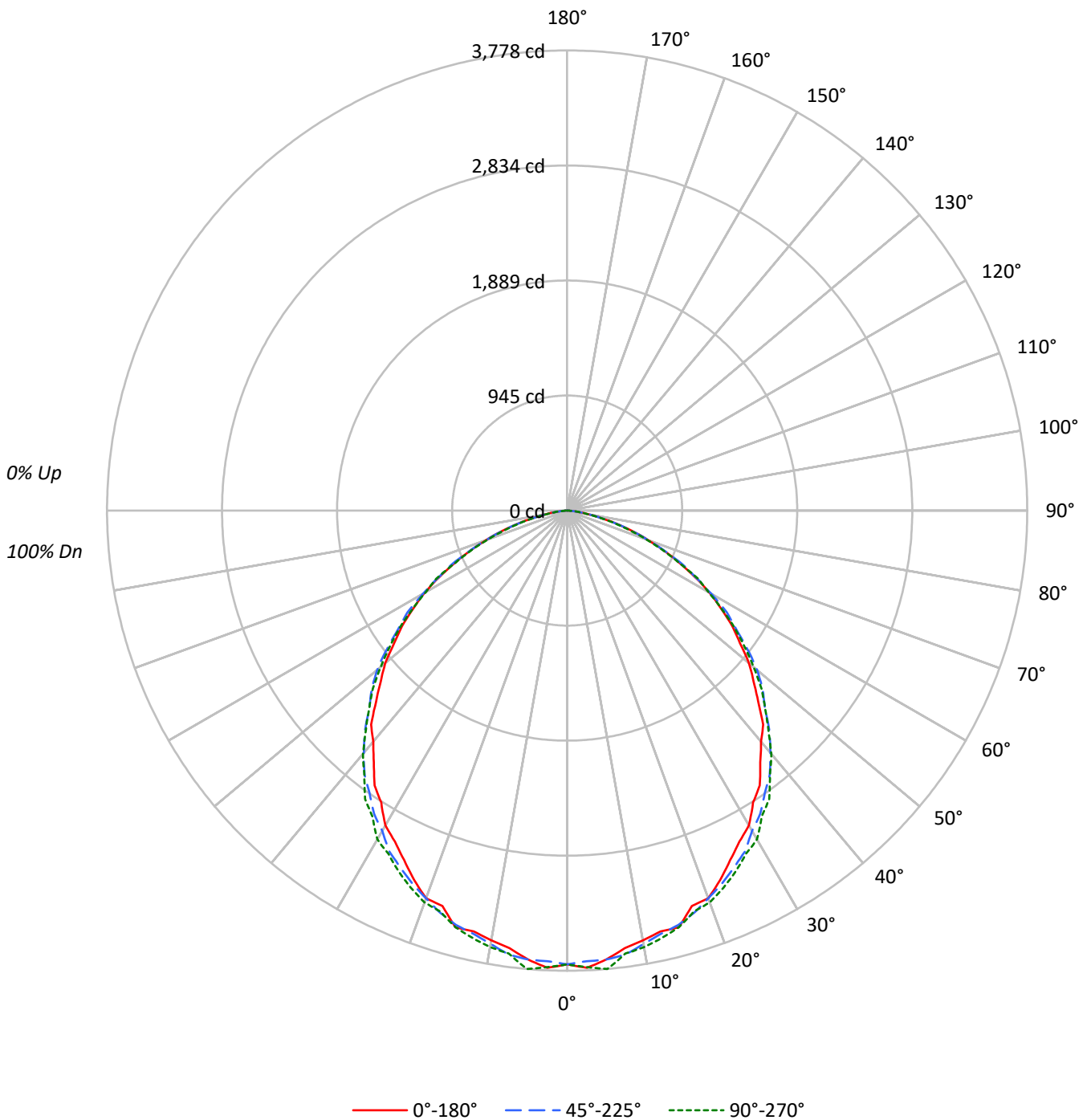
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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					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°	10025	10025	10025
5°	9992	9995	10206
10°	9789	9874	9944
15°	9867	9813	9868
20°	9700	9700	9803
25°	9402	9607	9713
30°	9272	9435	9686
35°	9054	9291	9500
40°	8702	9121	9161
45°	8439	8739	8751
50°	8161	8530	8367
55°	7776	7927	7871
60°	7272	7344	7212
65°	6484	6649	6438
70°	5563	5582	5426
75°	4406	4396	4225
80°	2952	2870	2758
85°	1602	1590	1485

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 8964 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	350.4	3.7
10°-20°	993.1	10.6
20°-30°	1487.9	15.8
30°-40°	1763.5	18.8
40°-50°	1766.8	18.8
50°-60°	1499.7	16.0
60°-70°	1011.1	10.8
70°-80°	444.3	4.7
80°-90°	72.2	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°	2831.5	30.2
0°-40°	4595.0	48.9
0°-60°	7861.4	83.7
0°-90°	9389.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9389.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3725	3725	3725	3725	3725	
5°	3699	3690	3700	3689	3778	349
15°	3542	3501	3522	3541	3542	987
25°	3166	3184	3236	3278	3271	1464
35°	2756	2764	2828	2894	2892	1711
45°	2217	2259	2296	2355	2300	1715
55°	1658	1646	1690	1678	1678	1474
65°	1018	1005	1044	1004	1011	1013
75°	424	415	423	393	406	454
85°	52	50	52	50	48	75
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3725.3	3725.3	3725.3	3725.3	3725.3
2.5°	3757.5	3729.2	3702.7	3733.5	3752.3
5°	3698.9	3690.2	3700.3	3689.2	3778.2
7.5°	3622.9	3656.1	3675.3	3663.3	3668.6
10°	3582.5	3570.9	3613.7	3643.5	3639.2
12.5°	3539.2	3556.5	3558.9	3591.1	3594.0
15°	3541.6	3500.7	3522.3	3540.6	3542.1
17.5°	3404.0	3448.3	3463.2	3505.0	3453.1
20°	3387.2	3355.0	3387.2	3430.0	3423.3
22.5°	3283.8	3247.7	3317.0	3355.0	3352.5
25°	3166.4	3183.7	3235.7	3278.0	3271.3
27.5°	3063.5	3083.7	3157.7	3215.9	3178.4
30°	2984.1	2974.0	3036.5	3088.5	3117.3
32.5°	2842.2	2878.8	2951.9	3003.3	2975.9
35°	2756.1	2764.3	2828.3	2893.7	2891.8
37.5°	2605.6	2643.6	2733.5	2751.8	2734.9
40°	2477.1	2515.1	2596.4	2616.1	2608.0
42.5°	2382.4	2389.1	2458.9	2481.5	2445.4
45°	2217.4	2258.8	2296.3	2355.4	2299.6
47.5°	2076.9	2096.2	2177.0	2192.9	2163.5
50°	1949.5	1956.2	2037.5	2017.8	1998.5
52.5°	1789.3	1817.7	1863.4	1859.5	1836.9
55°	1657.5	1646.5	1689.7	1678.2	1677.7
57.5°	1499.3	1518.5	1554.1	1535.8	1506.5
60°	1351.1	1351.6	1364.6	1343.9	1340.1
62.5°	1186.1	1191.9	1194.8	1169.3	1210.7
65°	1018.3	1004.8	1044.2	1004.3	1011.1
67.5°	863.9	870.6	866.8	841.7	851.4
70°	707.1	715.7	709.5	681.1	689.7
72.5°	563.7	553.1	559.9	524.3	540.6
75°	423.8	415.1	422.8	393.0	406.4
77.5°	288.6	295.3	290.5	274.6	283.8
80°	190.5	185.2	185.2	176.0	178.0
82.5°	111.1	105.8	104.4	101.5	105.8
85°	51.9	50.5	51.5	50.0	48.1
87.5°	18.8	19.2	19.2	18.3	17.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)