

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: P590735

Luminaire Tested: FSR-24-2-LD4-4HI-35-UNV-93-86-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590735
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-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9296.0 lumens
Efficiency: N/A
Efficacy: 107.6 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

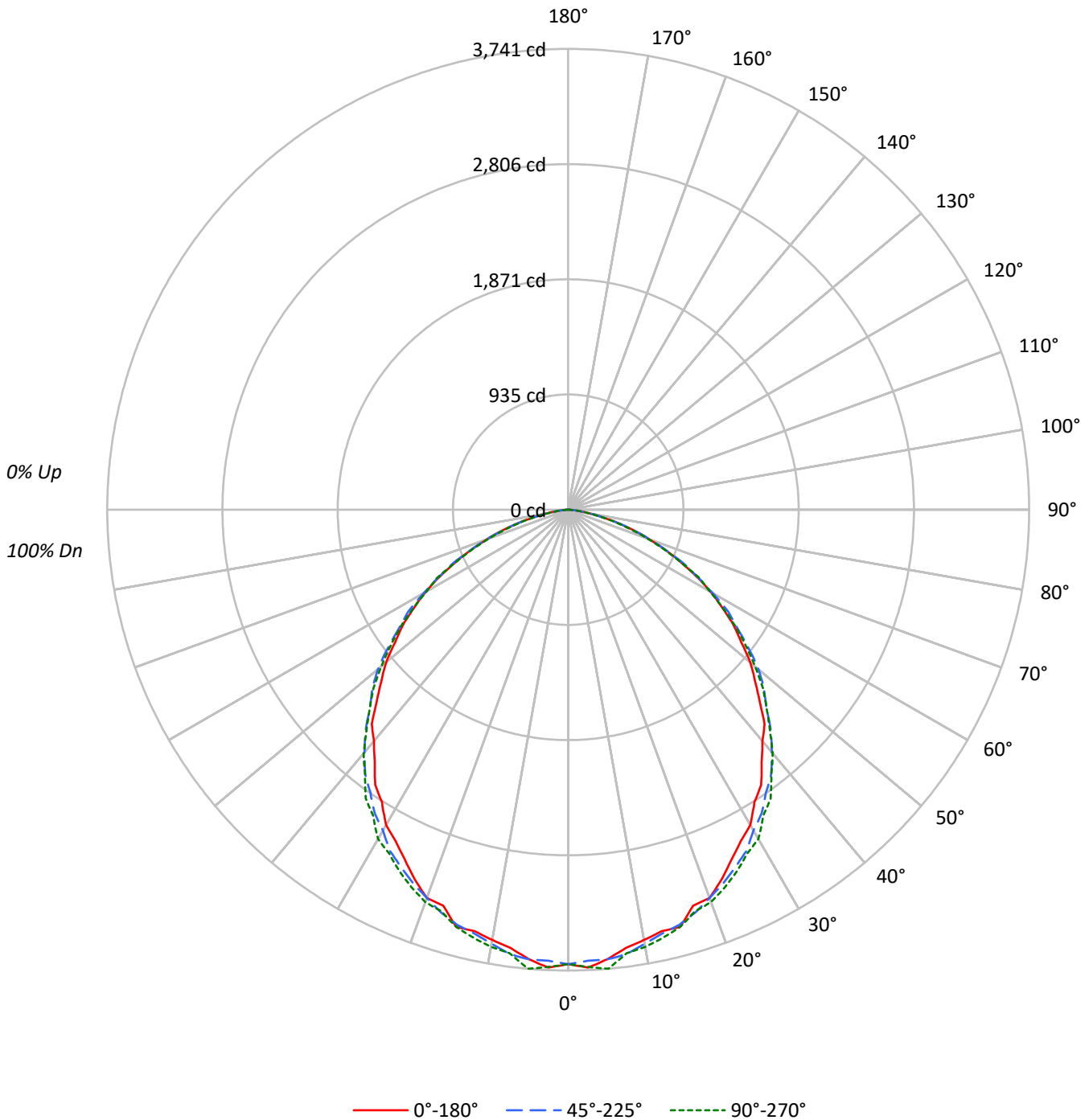
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	9925	9925	9925
5°	9893	9897	10105
10°	9692	9777	9846
15°	9769	9716	9770
20°	9604	9604	9706
25°	9308	9512	9617
30°	9180	9342	9591
35°	8964	9199	9406
40°	8616	9030	9070
45°	8355	8652	8665
50°	8081	8445	8284
55°	7699	7849	7793
60°	7199	7272	7141
65°	6420	6583	6374
70°	5508	5526	5373
75°	4363	4352	4184
80°	2923	2841	2731
85°	1587	1575	1470

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 8875 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	346.9	3.7
10°-20°	983.3	10.6
20°-30°	1473.2	15.8
30°-40°	1746.0	18.8
40°-50°	1749.3	18.8
50°-60°	1484.8	16.0
60°-70°	1001.1	10.8
70°-80°	439.9	4.7
80°-90°	71.5	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°	2803.4	30.2
0°-40°	4549.5	48.9
0°-60°	7783.5	83.7
0°-90°	9296.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9296.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3688	3688	3688	3688	3688	
5°	3662	3654	3664	3653	3741	345
15°	3506	3466	3487	3506	3507	977
25°	3135	3152	3204	3246	3239	1449
35°	2729	2737	2800	2865	2863	1694
45°	2195	2236	2274	2332	2277	1698
55°	1641	1630	1673	1662	1661	1460
65°	1008	995	1034	994	1001	1003
75°	420	411	419	389	402	450
85°	51	50	51	50	48	75
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3688.4	3688.4	3688.4	3688.4	3688.4
2.5°	3720.3	3692.2	3666.0	3696.5	3715.1
5°	3662.2	3653.7	3663.7	3652.7	3740.8
7.5°	3587.0	3619.8	3638.9	3627.0	3632.2
10°	3547.0	3535.5	3577.9	3607.5	3603.2
12.5°	3504.1	3521.3	3523.6	3555.5	3558.4
15°	3506.5	3466.0	3487.4	3505.5	3507.0
17.5°	3370.3	3414.1	3428.9	3470.3	3418.9
20°	3353.6	3321.7	3353.6	3396.0	3389.3
22.5°	3251.2	3215.5	3284.1	3321.7	3319.3
25°	3135.0	3152.2	3203.6	3245.5	3238.9
27.5°	3033.1	3053.1	3126.5	3184.1	3146.9
30°	2954.5	2944.5	3006.5	3057.9	3086.5
32.5°	2814.1	2850.2	2922.6	2973.6	2946.4
35°	2728.8	2736.9	2800.2	2865.0	2863.1
37.5°	2579.7	2617.4	2706.4	2724.5	2707.9
40°	2452.6	2490.2	2570.7	2590.2	2582.1
42.5°	2358.8	2365.4	2434.5	2456.9	2421.2
45°	2195.4	2236.4	2273.5	2332.1	2276.9
47.5°	2056.4	2075.4	2155.4	2171.1	2142.1
50°	1930.2	1936.8	2017.3	1997.8	1978.7
52.5°	1771.6	1799.7	1844.9	1841.1	1818.7
55°	1641.1	1630.1	1673.0	1661.6	1661.1
57.5°	1484.4	1503.5	1538.7	1520.6	1491.6
60°	1337.7	1338.2	1351.1	1330.6	1326.8
62.5°	1174.4	1180.1	1183.0	1157.7	1198.7
65°	1008.2	994.8	1033.9	994.4	1001.0
67.5°	855.3	862.0	858.2	833.4	842.9
70°	700.1	708.6	702.4	674.3	682.9
72.5°	558.1	547.7	554.3	519.1	535.3
75°	419.6	411.0	418.6	389.1	402.4
77.5°	285.7	292.4	287.6	271.9	281.0
80°	188.6	183.3	183.3	174.3	176.2
82.5°	110.0	104.8	103.3	100.5	104.8
85°	51.4	50.0	51.0	49.5	47.6
87.5°	18.6	19.0	19.0	18.1	17.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)