

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: P563854

Luminaire Tested: FSR-24-4-LD4-4LO-35-UNV-81-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563854
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-4-LD4-4LO-35-UNV-81-97-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8855.0 lumens
Efficiency: N/A
Efficacy: 94.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

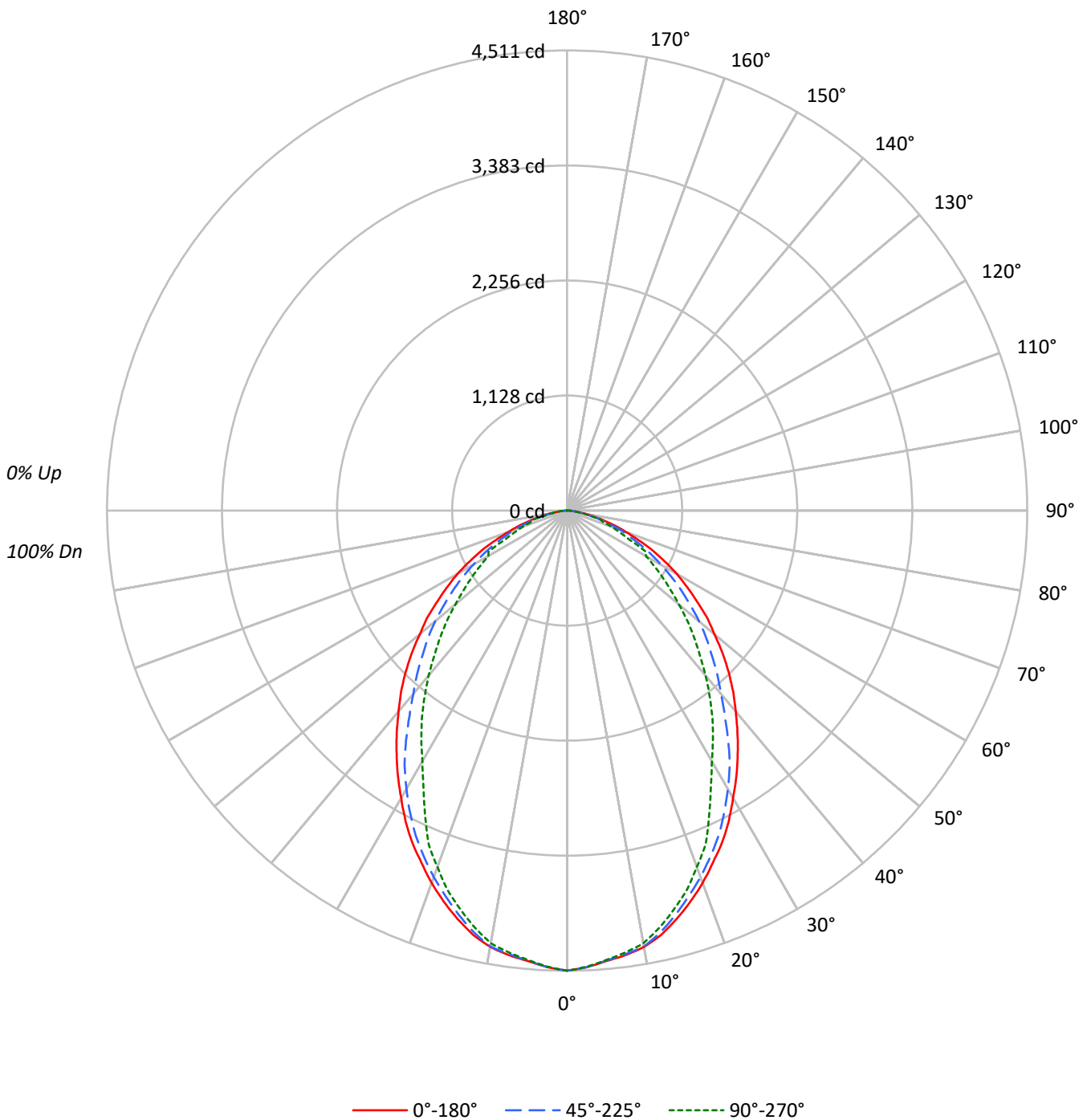
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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																												
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6069	6069	6069
5°	5987	5980	5972
10°	5935	5927	5885
15°	5775	5717	5637
20°	5563	5473	5324
25°	5334	5218	4893
30°	5055	4893	4407
35°	4788	4522	4077
40°	4515	4122	3709
45°	4257	3810	3354
50°	3940	3536	2991
55°	3645	3205	2679
60°	3340	2863	2400
65°	2939	2507	2125
70°	2421	2195	1805
75°	1925	1681	1762
80°	1293	1212	1131
85°	804	966	1127

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4257 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	419.9	4.7
10°-20°	1152.3	13.0
20°-30°	1595.3	18.0
30°-40°	1701.1	19.2
40°-50°	1551.9	17.5
50°-60°	1215.8	13.7
60°-70°	792.4	8.9
70°-80°	351.1	4.0
80°-90°	75.4	0.9
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°	3167.5	35.8
0°-40°	4868.6	55.0
0°-60°	7636.2	86.2
0°-90°	8855.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8855.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4511	4511	4511	4511	4511	
5°	4432	4427	4427	4422	4422	421
15°	4146	4146	4104	4062	4046	1165
25°	3593	3572	3515	3390	3296	1649
35°	2915	2894	2753	2545	2482	1822
45°	2237	2190	2002	1836	1762	1723
55°	1554	1507	1366	1205	1142	1394
65°	923	871	787	803	668	910
75°	370	344	323	308	339	397
85°	52	57	63	68	73	72
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4510.6	4510.6	4510.6	4510.6	4510.6
2.5°	4479.3	4479.3	4479.3	4474.1	4474.1
5°	4432.4	4427.2	4427.2	4422.0	4422.0
7.5°	4395.9	4390.7	4385.5	4380.3	4369.8
10°	4343.8	4343.8	4338.5	4312.5	4307.2
12.5°	4260.3	4255.1	4234.2	4197.7	4187.3
15°	4145.6	4145.6	4103.9	4062.2	4046.5
17.5°	4020.4	4015.2	3963.1	3921.4	3900.5
20°	3884.9	3874.4	3822.3	3754.5	3718.0
22.5°	3733.6	3733.6	3671.1	3582.4	3545.9
25°	3592.9	3572.0	3514.6	3389.5	3295.6
27.5°	3431.2	3399.9	3337.3	3160.0	3050.5
30°	3253.9	3238.3	3149.6	2920.2	2836.7
32.5°	3087.0	3061.0	2967.1	2727.2	2659.4
35°	2915.0	2894.1	2753.3	2544.7	2482.1
37.5°	2742.9	2716.8	2539.5	2372.6	2294.4
40°	2570.8	2539.5	2346.6	2195.3	2111.9
42.5°	2409.1	2367.4	2179.7	2018.0	1924.2
45°	2237.1	2190.1	2002.4	1835.5	1762.5
47.5°	2065.0	2023.3	1851.2	1679.1	1595.7
50°	1882.5	1846.0	1689.5	1517.4	1428.8
52.5°	1731.2	1673.9	1522.7	1350.6	1277.6
55°	1553.9	1507.0	1366.2	1204.6	1142.0
57.5°	1392.3	1345.4	1215.0	1063.8	1011.6
60°	1241.1	1173.3	1063.8	933.4	891.7
62.5°	1074.2	1022.1	928.2	818.7	870.8
65°	923.0	870.8	787.4	803.0	667.5
67.5°	756.1	730.0	657.0	584.0	563.2
70°	615.3	584.0	558.0	479.7	458.9
72.5°	490.2	458.9	422.4	380.7	365.0
75°	370.2	344.2	323.3	307.7	338.9
77.5°	255.5	245.1	229.4	213.8	208.6
80°	166.9	161.7	156.4	151.2	146.0
82.5°	99.1	99.1	99.1	99.1	99.1
85°	52.1	57.4	62.6	67.8	73.0
87.5°	31.3	31.3	36.5	41.7	46.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)