

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: P562534

Luminaire Tested: FSR-24-4-LD4-2HI-35-UNV-93-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562534
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-LD4-2HI-35-UNV-93-87-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7526.0 lumens
Efficiency: N/A
Efficacy: 87.1 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

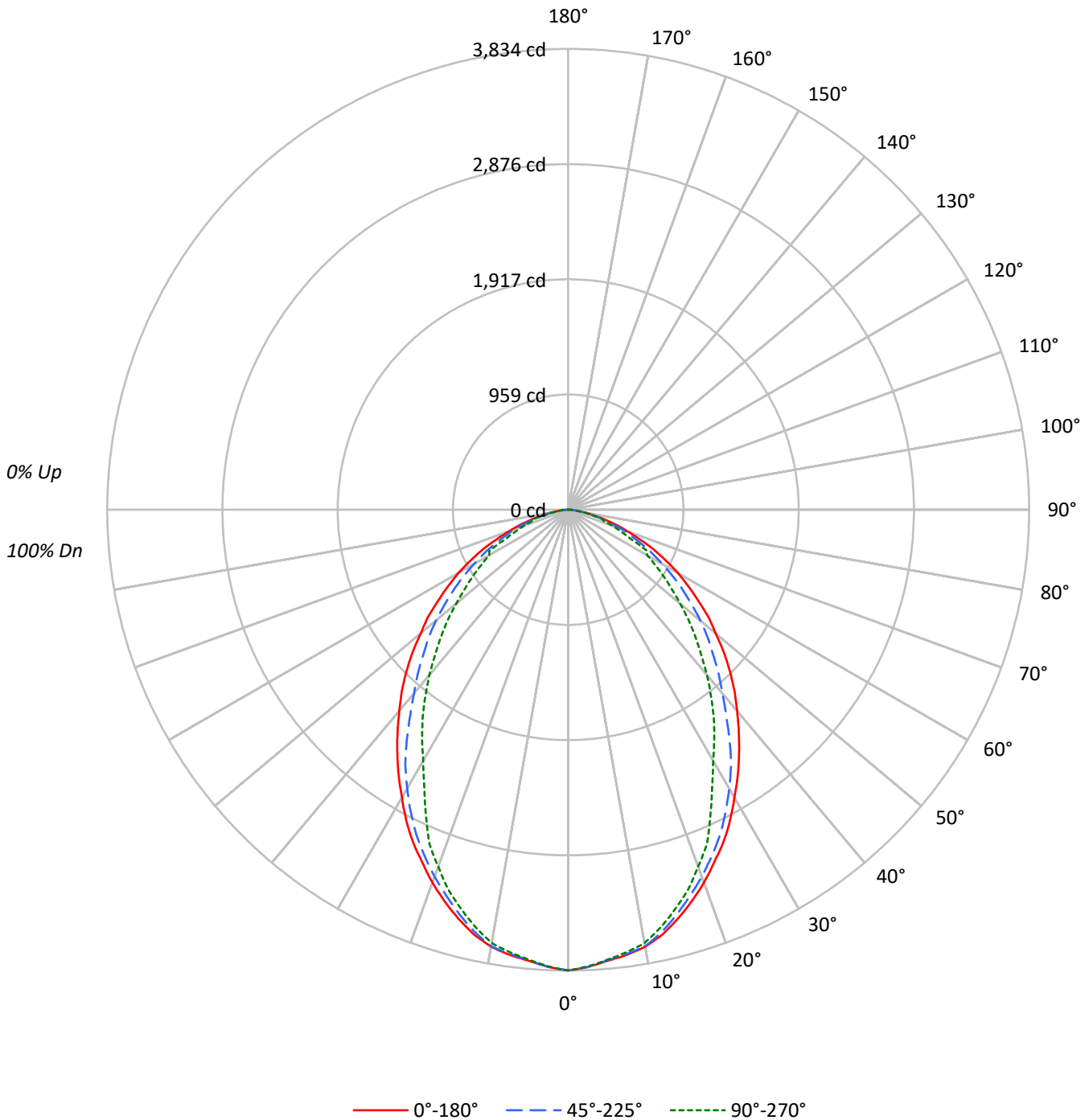
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5158	5158	5158
5°	5088	5082	5076
10°	5044	5038	5002
15°	4908	4859	4791
20°	4728	4651	4525
25°	4533	4435	4158
30°	4297	4159	3746
35°	4069	3844	3465
40°	3838	3503	3153
45°	3618	3238	2850
50°	3349	3006	2542
55°	3098	2724	2277
60°	2838	2433	2039
65°	2498	2131	1806
70°	2057	1865	1534
75°	1636	1429	1498
80°	1099	1031	962
85°	684	821	957

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3618 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	356.9	4.7
10°-20°	979.4	13.0
20°-30°	1355.9	18.0
30°-40°	1445.8	19.2
40°-50°	1319.0	17.5
50°-60°	1033.3	13.7
60°-70°	673.4	8.9
70°-80°	298.4	4.0
80°-90°	64.1	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°	2692.1	35.8
0°-40°	4137.9	55.0
0°-60°	6490.1	86.2
0°-90°	7526.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7526.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3834	3834	3834	3834	3834	
5°	3767	3763	3763	3758	3758	358
15°	3523	3523	3488	3452	3439	991
25°	3054	3036	2987	2881	2801	1402
35°	2478	2460	2340	2163	2110	1549
45°	1901	1861	1702	1560	1498	1465
55°	1321	1281	1161	1024	971	1185
65°	784	740	669	682	567	773
75°	315	292	275	262	288	337
85°	44	49	53	58	62	61
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3833.6	3833.6	3833.6	3833.6	3833.6
2.5°	3807.1	3807.1	3807.1	3802.6	3802.6
5°	3767.2	3762.7	3762.7	3758.3	3758.3
7.5°	3736.1	3731.7	3727.3	3722.8	3714.0
10°	3691.8	3691.8	3687.4	3665.2	3660.8
12.5°	3620.9	3616.5	3598.8	3567.7	3558.9
15°	3523.4	3523.4	3488.0	3452.5	3439.2
17.5°	3417.0	3412.6	3368.3	3332.8	3315.1
20°	3301.8	3292.9	3248.6	3191.0	3160.0
22.5°	3173.3	3173.3	3120.1	3044.8	3013.7
25°	3053.6	3035.9	2987.1	2880.8	2801.0
27.5°	2916.2	2889.6	2836.5	2685.8	2592.7
30°	2765.5	2752.2	2676.9	2481.9	2411.0
32.5°	2623.7	2601.6	2521.8	2317.9	2260.3
35°	2477.5	2459.7	2340.1	2162.8	2109.6
37.5°	2331.2	2309.1	2158.4	2016.5	1950.1
40°	2185.0	2158.4	1994.4	1865.9	1794.9
42.5°	2047.6	2012.1	1852.6	1715.2	1635.4
45°	1901.3	1861.4	1701.9	1560.0	1498.0
47.5°	1755.1	1719.6	1573.3	1427.1	1356.2
50°	1599.9	1568.9	1436.0	1289.7	1214.4
52.5°	1471.4	1422.7	1294.1	1147.9	1085.8
55°	1320.7	1280.8	1161.2	1023.8	970.6
57.5°	1183.3	1143.4	1032.6	904.1	859.8
60°	1054.8	997.2	904.1	793.3	757.9
62.5°	913.0	868.7	788.9	695.8	740.1
65°	784.5	740.1	669.2	682.5	567.3
67.5°	642.6	620.5	558.4	496.4	478.7
70°	523.0	496.4	474.2	407.7	390.0
72.5°	416.6	390.0	359.0	323.5	310.2
75°	314.7	292.5	274.8	261.5	288.1
77.5°	217.2	208.3	195.0	181.7	177.3
80°	141.8	137.4	133.0	128.5	124.1
82.5°	84.2	84.2	84.2	84.2	84.2
85°	44.3	48.8	53.2	57.6	62.0
87.5°	26.6	26.6	31.0	35.5	39.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)