

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: P563046

Luminaire Tested: FSR-24-4-LD4-2STD-50-UNV-93-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563046
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-LD4-2STD-50-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 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6553.0 lumens
Efficiency: N/A
Efficacy: 98.4 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

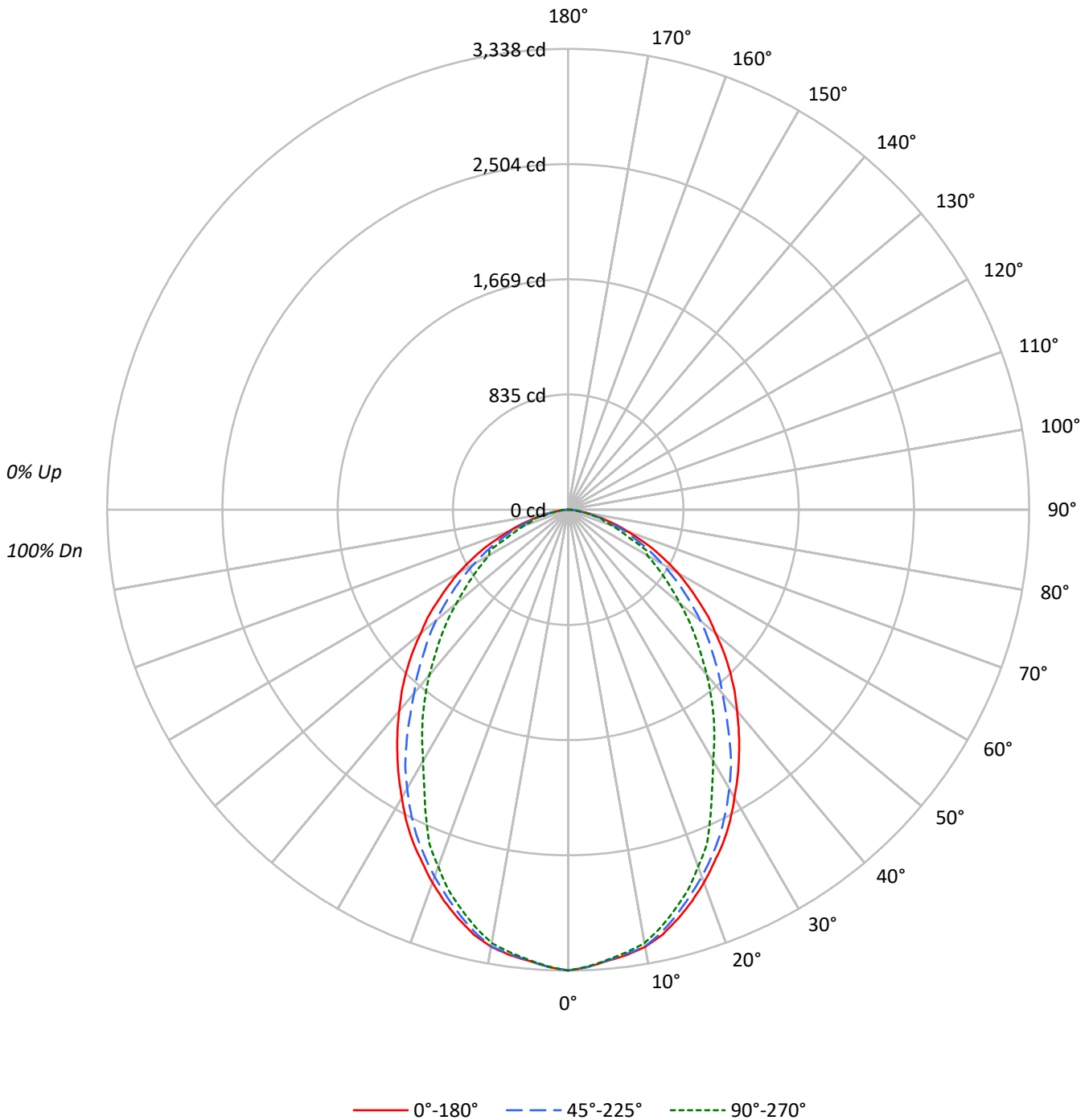
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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																			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°	4491	4491	4491
5°	4430	4425	4420
10°	4392	4387	4355
15°	4273	4230	4171
20°	4116	4050	3940
25°	3947	3861	3621
30°	3741	3621	3262
35°	3543	3347	3017
40°	3342	3050	2745
45°	3150	2820	2482
50°	2916	2617	2213
55°	2698	2372	1982
60°	2471	2118	1776
65°	2174	1855	1572
70°	1792	1624	1336
75°	1424	1244	1304
80°	957	897	838
85°	596	715	834

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3150 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	310.7	4.7
10°-20°	852.8	13.0
20°-30°	1180.6	18.0
30°-40°	1258.8	19.2
40°-50°	1148.4	17.5
50°-60°	899.7	13.7
60°-70°	586.4	8.9
70°-80°	259.8	4.0
80°-90°	55.8	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°	2344.1	35.8
0°-40°	3602.9	55.0
0°-60°	5651.0	86.2
0°-90°	6553.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6553.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3338	3338	3338	3338	3338	
5°	3280	3276	3276	3272	3272	311
15°	3068	3068	3037	3006	2995	862
25°	2659	2643	2601	2508	2439	1221
35°	2157	2142	2038	1883	1837	1349
45°	1656	1621	1482	1358	1304	1275
55°	1150	1115	1011	891	845	1031
65°	683	644	583	594	494	673
75°	274	255	239	228	251	294
85°	39	42	46	50	54	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3338.0	3338.0	3338.0	3338.0	3338.0
2.5°	3314.9	3314.9	3314.9	3311.0	3311.0
5°	3280.1	3276.3	3276.3	3272.4	3272.4
7.5°	3253.1	3249.3	3245.4	3241.5	3233.8
10°	3214.5	3214.5	3210.7	3191.4	3187.5
12.5°	3152.8	3148.9	3133.5	3106.5	3098.8
15°	3067.9	3067.9	3037.0	3006.1	2994.6
17.5°	2975.3	2971.4	2932.8	2901.9	2886.5
20°	2874.9	2867.2	2828.6	2778.5	2751.4
22.5°	2763.0	2763.0	2716.7	2651.1	2624.1
25°	2658.8	2643.4	2600.9	2508.3	2438.9
27.5°	2539.2	2516.0	2469.7	2338.5	2257.5
30°	2408.0	2396.4	2330.8	2161.0	2099.3
32.5°	2284.5	2265.2	2195.8	2018.2	1968.1
35°	2157.2	2141.7	2037.5	1883.2	1836.9
37.5°	2029.8	2010.5	1879.3	1755.8	1697.9
40°	1902.5	1879.3	1736.5	1624.6	1562.9
42.5°	1782.8	1752.0	1613.1	1493.4	1424.0
45°	1655.5	1620.8	1481.8	1358.4	1304.3
47.5°	1528.2	1497.3	1369.9	1242.6	1180.8
50°	1393.1	1366.1	1250.3	1123.0	1057.4
52.5°	1281.2	1238.7	1126.8	999.5	945.4
55°	1150.0	1115.2	1011.1	891.4	845.1
57.5°	1030.3	995.6	899.1	787.2	748.6
60°	918.4	868.3	787.2	690.8	659.9
62.5°	794.9	756.4	686.9	605.9	644.4
65°	683.0	644.4	582.7	594.3	493.9
67.5°	559.6	540.3	486.2	432.2	416.8
70°	455.4	432.2	412.9	355.0	339.6
72.5°	362.7	339.6	312.6	281.7	270.1
75°	274.0	254.7	239.3	227.7	250.8
77.5°	189.1	181.4	169.8	158.2	154.4
80°	123.5	119.6	115.8	111.9	108.1
82.5°	73.3	73.3	73.3	73.3	73.3
85°	38.6	42.4	46.3	50.2	54.0
87.5°	23.2	23.2	27.0	30.9	34.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)