

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: P563040

Luminaire Tested: FSR-24-4-LD4-2STD-50-UNV-93-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563040
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-93-84-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6988.0 lumens
Efficiency: N/A
Efficacy: 104.9 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

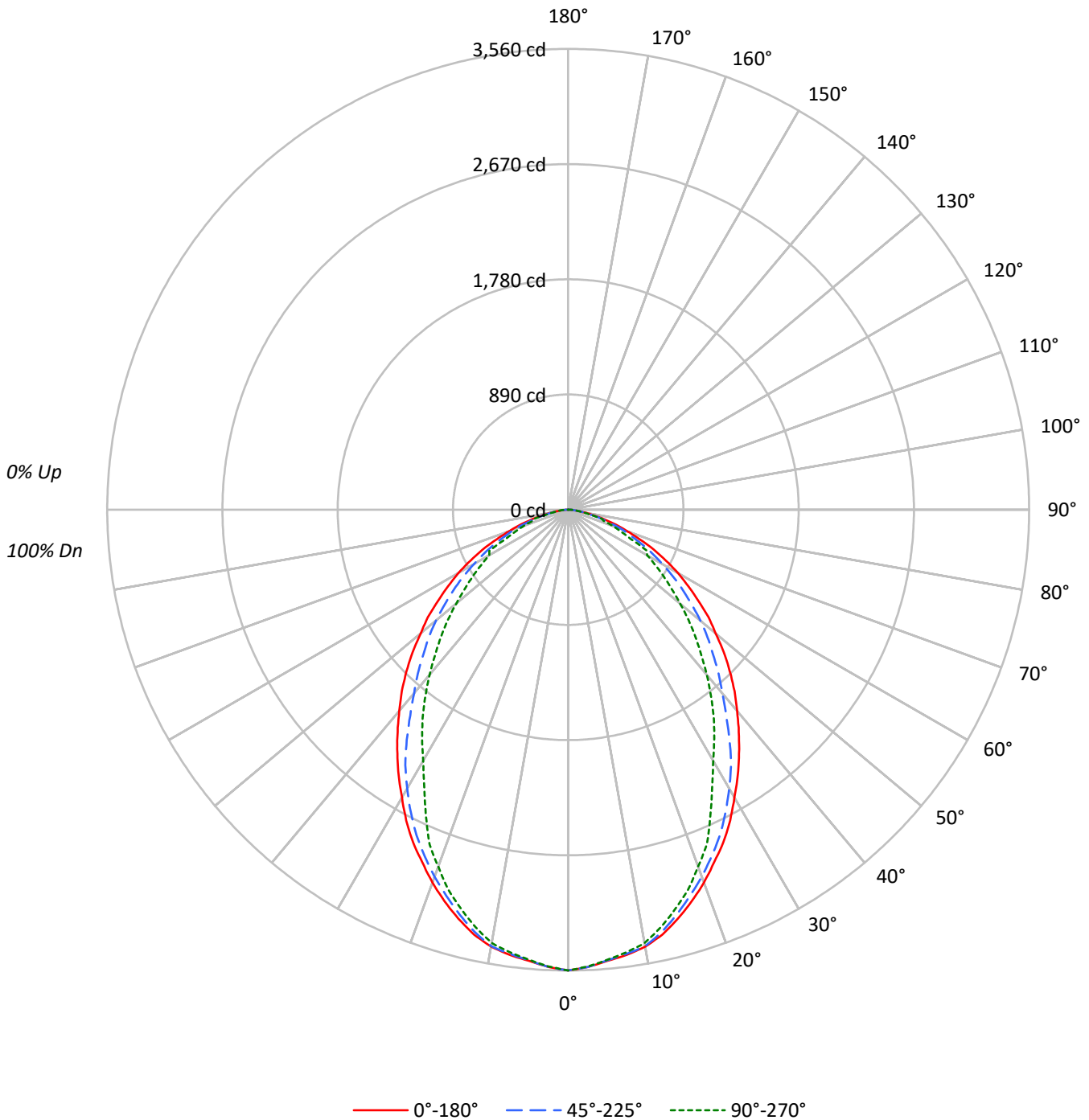
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4789	4789	4789
5°	4724	4719	4713
10°	4683	4678	4644
15°	4557	4511	4448
20°	4390	4319	4201
25°	4209	4118	3861
30°	3989	3862	3478
35°	3778	3569	3217
40°	3563	3253	2927
45°	3359	3007	2647
50°	3110	2791	2360
55°	2877	2529	2114
60°	2636	2259	1894
65°	2319	1978	1677
70°	1910	1732	1424
75°	1519	1326	1391
80°	1020	957	893
85°	636	763	889

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3359 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	331.3	4.7
10°-20°	909.4	13.0
20°-30°	1259.0	18.0
30°-40°	1342.4	19.2
40°-50°	1224.7	17.5
50°-60°	959.4	13.7
60°-70°	625.3	8.9
70°-80°	277.0	4.0
80°-90°	59.5	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°	2499.7	35.8
0°-40°	3842.1	55.0
0°-60°	6026.2	86.2
0°-90°	6988.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6988.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3560	3560	3560	3560	3560	
5°	3498	3494	3494	3490	3490	332
15°	3272	3272	3239	3206	3193	920
25°	2835	2819	2774	2675	2601	1302
35°	2300	2284	2173	2008	1959	1438
45°	1765	1728	1580	1448	1391	1360
55°	1226	1189	1078	951	901	1100
65°	728	687	621	634	527	718
75°	292	272	255	243	268	313
85°	41	45	49	54	58	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3559.6	3559.6	3559.6	3559.6	3559.6
2.5°	3534.9	3534.9	3534.9	3530.8	3530.8
5°	3497.9	3493.8	3493.8	3489.6	3489.6
7.5°	3469.1	3464.9	3460.8	3456.7	3448.5
10°	3427.9	3427.9	3423.8	3403.2	3399.1
12.5°	3362.1	3358.0	3341.5	3312.7	3304.5
15°	3271.5	3271.5	3238.6	3205.7	3193.3
17.5°	3172.8	3168.7	3127.5	3094.6	3078.1
20°	3065.8	3057.5	3016.4	2962.9	2934.1
22.5°	2946.4	2946.4	2897.1	2827.1	2798.3
25°	2835.3	2818.9	2773.6	2674.8	2600.8
27.5°	2707.8	2683.1	2633.7	2493.8	2407.4
30°	2567.8	2555.5	2485.5	2304.5	2238.6
32.5°	2436.2	2415.6	2341.5	2152.2	2098.7
35°	2300.4	2283.9	2172.8	2008.2	1958.8
37.5°	2164.6	2144.0	2004.1	1872.4	1810.7
40°	2028.8	2004.1	1851.8	1732.5	1666.6
42.5°	1901.2	1868.3	1720.1	1592.6	1518.5
45°	1765.4	1728.4	1580.2	1448.5	1390.9
47.5°	1629.6	1596.7	1460.9	1325.1	1259.2
50°	1485.6	1456.8	1333.3	1197.5	1127.5
52.5°	1366.2	1321.0	1201.6	1065.8	1008.2
55°	1226.3	1189.3	1078.2	950.6	901.2
57.5°	1098.7	1061.7	958.8	839.5	798.3
60°	979.4	925.9	839.5	736.6	703.7
62.5°	847.7	806.6	732.5	646.1	687.2
65°	728.4	687.2	621.4	633.7	526.7
67.5°	596.7	576.1	518.5	460.9	444.4
70°	485.6	460.9	440.3	378.6	362.1
72.5°	386.8	362.1	333.3	300.4	288.1
75°	292.2	271.6	255.1	242.8	267.5
77.5°	201.6	193.4	181.1	168.7	164.6
80°	131.7	127.6	123.5	119.3	115.2
82.5°	78.2	78.2	78.2	78.2	78.2
85°	41.2	45.3	49.4	53.5	57.6
87.5°	24.7	24.7	28.8	32.9	37.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)