

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: P563044

Luminaire Tested: FSR-24-4-LD4-2STD-50-UNV-93-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563044
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-93-86-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6772.0 lumens
Efficiency: N/A
Efficacy: 101.7 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

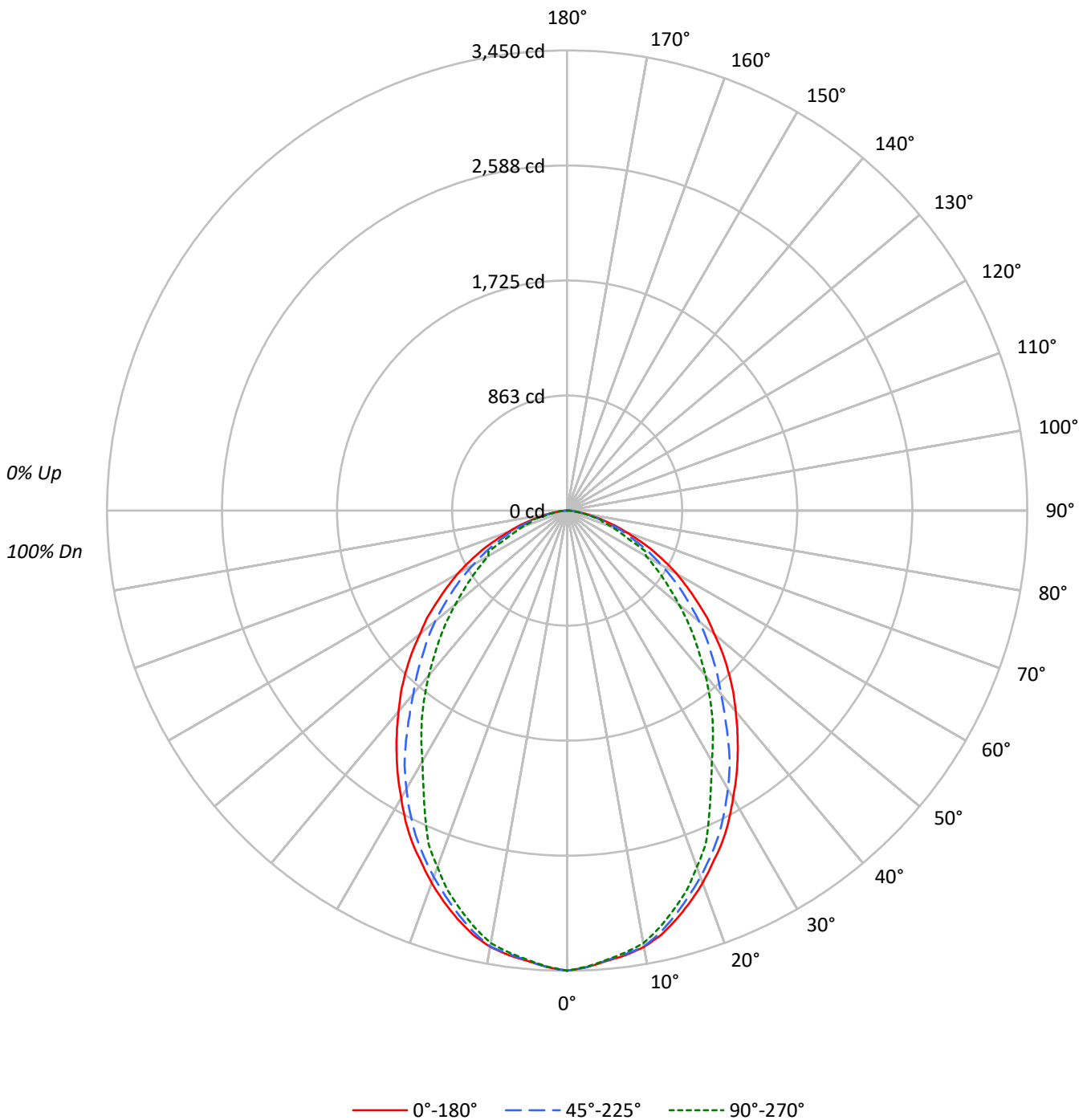
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4641	4641	4641
5°	4578	4573	4568
10°	4539	4533	4500
15°	4416	4372	4311
20°	4254	4186	4071
25°	4079	3990	3742
30°	3866	3742	3370
35°	3662	3459	3118
40°	3453	3152	2837
45°	3255	2914	2565
50°	3013	2705	2287
55°	2788	2451	2049
60°	2554	2189	1835
65°	2247	1917	1625
70°	1851	1679	1380
75°	1472	1286	1347
80°	989	927	865
85°	616	739	861

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3255 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	321.1	4.7
10°-20°	881.3	13.0
20°-30°	1220.0	18.0
30°-40°	1300.9	19.2
40°-50°	1186.8	17.5
50°-60°	929.8	13.7
60°-70°	606.0	8.9
70°-80°	268.5	4.0
80°-90°	57.6	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°	2422.4	35.8
0°-40°	3723.3	55.0
0°-60°	5839.9	86.2
0°-90°	6772.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6772.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3450	3450	3450	3450	3450	
5°	3390	3386	3386	3382	3382	322
15°	3170	3170	3138	3107	3095	891
25°	2748	2732	2688	2592	2520	1261
35°	2229	2213	2106	1946	1898	1394
45°	1711	1675	1531	1404	1348	1318
55°	1188	1152	1045	921	873	1066
65°	706	666	602	614	510	696
75°	283	263	247	235	259	303
85°	40	44	48	52	56	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3449.6	3449.6	3449.6	3449.6	3449.6
2.5°	3425.6	3425.6	3425.6	3421.7	3421.7
5°	3389.7	3385.8	3385.8	3381.8	3381.8
7.5°	3361.8	3357.8	3353.9	3349.9	3341.9
10°	3322.0	3322.0	3318.0	3298.0	3294.0
12.5°	3258.1	3254.2	3238.2	3210.3	3202.3
15°	3170.4	3170.4	3138.5	3106.6	3094.6
17.5°	3074.7	3070.7	3030.8	2998.9	2983.0
20°	2971.0	2963.0	2923.2	2871.3	2843.4
22.5°	2855.4	2855.4	2807.5	2739.7	2711.8
25°	2747.7	2731.7	2687.9	2592.2	2520.4
27.5°	2624.1	2600.1	2552.3	2416.7	2332.9
30°	2488.5	2476.5	2408.7	2233.2	2169.4
32.5°	2360.9	2340.9	2269.1	2085.7	2033.8
35°	2229.3	2213.3	2105.6	1946.1	1898.3
37.5°	2097.7	2077.7	1942.1	1814.5	1754.7
40°	1966.1	1942.1	1794.6	1678.9	1615.1
42.5°	1842.4	1810.5	1667.0	1543.3	1471.5
45°	1710.8	1674.9	1531.4	1403.8	1347.9
47.5°	1579.2	1547.3	1415.7	1284.1	1220.3
50°	1439.6	1411.7	1292.1	1160.5	1092.7
52.5°	1324.0	1280.1	1164.5	1032.9	977.0
55°	1188.4	1152.5	1044.8	921.2	873.4
57.5°	1064.8	1028.9	929.2	813.5	773.7
60°	949.1	897.3	813.5	713.8	681.9
62.5°	821.5	781.6	709.9	626.1	666.0
65°	705.9	666.0	602.2	614.1	510.5
67.5°	578.3	558.3	502.5	446.6	430.7
70°	470.6	446.6	426.7	366.9	350.9
72.5°	374.9	350.9	323.0	291.1	279.2
75°	283.1	263.2	247.3	235.3	259.2
77.5°	195.4	187.4	175.5	163.5	159.5
80°	127.6	123.6	119.6	115.7	111.7
82.5°	75.8	75.8	75.8	75.8	75.8
85°	39.9	43.9	47.9	51.8	55.8
87.5°	23.9	23.9	27.9	31.9	35.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)