

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: P563552

Luminaire Tested: FSR-24-4-LD4-3STD-40-UNV-93-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563552
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-LD4-3STD-40-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9955.0 lumens
Efficiency: N/A
Efficacy: 99.6 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

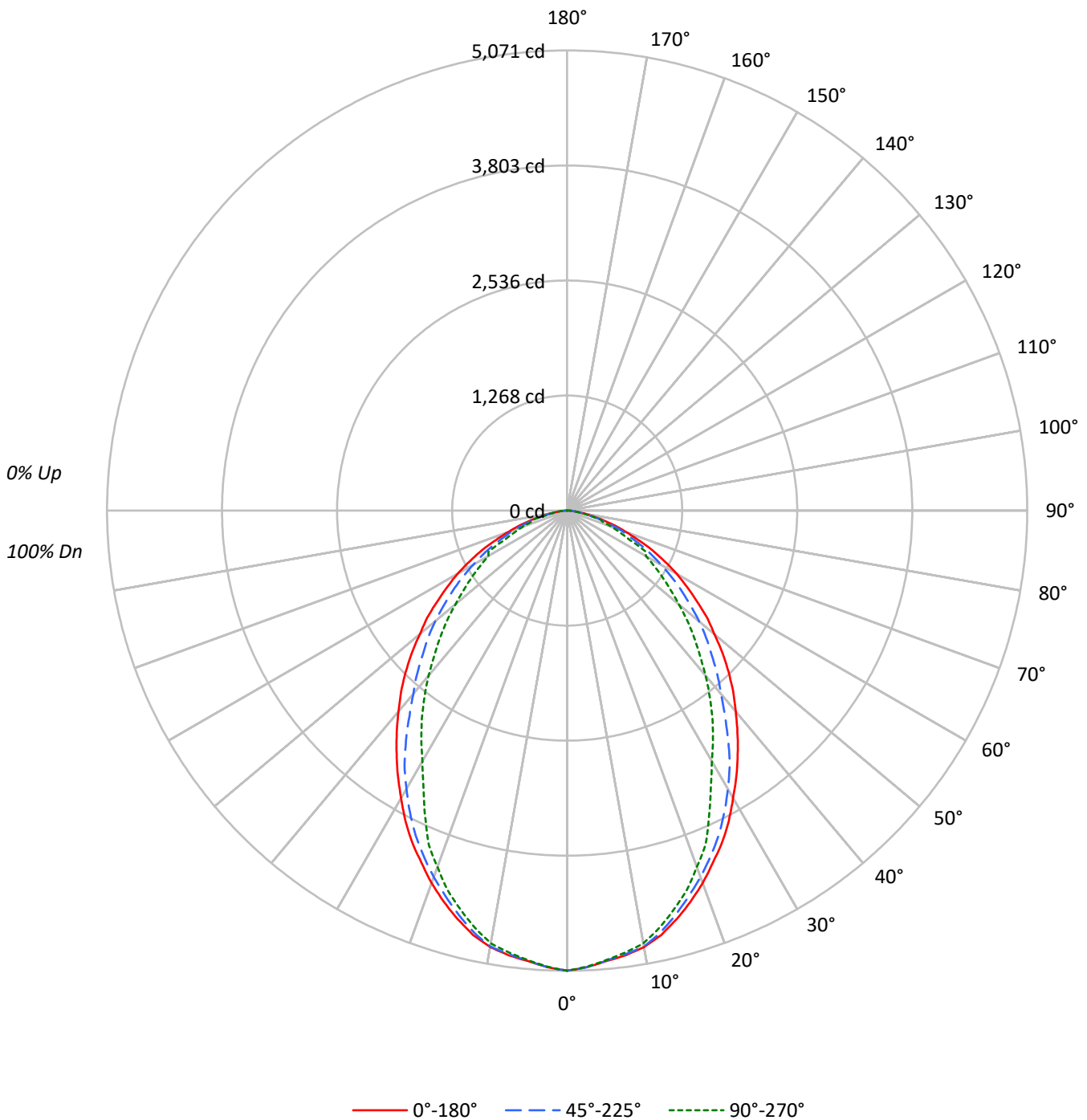
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	6823	6823	6823
5°	6730	6722	6714
10°	6672	6664	6616
15°	6492	6427	6337
20°	6254	6153	5985
25°	5997	5866	5500
30°	5683	5501	4955
35°	5383	5084	4584
40°	5076	4634	4170
45°	4786	4283	3770
50°	4430	3976	3362
55°	4098	3603	3012
60°	3754	3218	2698
65°	3303	2818	2389
70°	2722	2468	2030
75°	2164	1890	1981
80°	1454	1363	1272
85°	905	1085	1267

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4786 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	472.0	4.7
10°-20°	1295.5	13.0
20°-30°	1793.5	18.0
30°-40°	1912.4	19.2
40°-50°	1744.6	17.5
50°-60°	1366.8	13.7
60°-70°	890.8	8.9
70°-80°	394.7	4.0
80°-90°	84.7	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°	3561.0	35.8
0°-40°	5473.4	55.0
0°-60°	8584.8	86.2
0°-90°	9955.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9955.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5071	5071	5071	5071	5071	
5°	4983	4977	4977	4971	4971	473
15°	4661	4661	4614	4567	4549	1310
25°	4039	4016	3951	3810	3705	1854
35°	3277	3254	3095	2861	2790	2049
45°	2515	2462	2251	2064	1982	1937
55°	1747	1694	1536	1354	1284	1567
65°	1038	979	885	903	750	1023
75°	416	387	364	346	381	446
85°	59	64	70	76	82	81
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5070.9	5070.9	5070.9	5070.9	5070.9
2.5°	5035.8	5035.8	5035.8	5029.9	5029.9
5°	4983.0	4977.1	4977.1	4971.3	4971.3
7.5°	4942.0	4936.1	4930.2	4924.4	4912.7
10°	4883.3	4883.3	4877.5	4848.2	4842.3
12.5°	4789.6	4783.7	4760.2	4719.2	4707.5
15°	4660.6	4660.6	4613.7	4566.8	4549.2
17.5°	4519.9	4514.0	4455.4	4408.5	4385.0
20°	4367.5	4355.7	4297.1	4220.9	4179.9
22.5°	4197.5	4197.5	4127.1	4027.4	3986.4
25°	4039.2	4015.7	3951.2	3810.5	3705.0
27.5°	3857.4	3822.3	3751.9	3552.6	3429.5
30°	3658.1	3640.5	3540.9	3282.9	3189.1
32.5°	3470.5	3441.2	3335.7	3066.0	2989.8
35°	3277.1	3253.6	3095.3	2860.8	2790.5
37.5°	3083.6	3054.3	2855.0	2667.4	2579.4
40°	2890.1	2855.0	2638.1	2468.1	2374.3
42.5°	2708.4	2661.5	2450.5	2268.7	2163.2
45°	2515.0	2462.2	2251.1	2063.6	1981.5
47.5°	2321.5	2274.6	2081.1	1887.7	1793.9
50°	2116.3	2075.3	1899.4	1705.9	1606.3
52.5°	1946.3	1881.8	1711.8	1518.4	1436.3
55°	1747.0	1694.2	1535.9	1354.2	1283.9
57.5°	1565.3	1512.5	1365.9	1195.9	1137.3
60°	1395.2	1319.0	1195.9	1049.4	1002.5
62.5°	1207.6	1149.0	1043.5	920.4	979.0
65°	1037.6	979.0	885.2	902.8	750.4
67.5°	850.0	820.7	738.7	656.6	633.1
70°	691.8	656.6	627.3	539.3	515.9
72.5°	551.1	515.9	474.9	428.0	410.4
75°	416.2	386.9	363.5	345.9	381.1
77.5°	287.3	275.5	257.9	240.4	234.5
80°	187.6	181.7	175.9	170.0	164.1
82.5°	111.4	111.4	111.4	111.4	111.4
85°	58.6	64.5	70.3	76.2	82.1
87.5°	35.2	35.2	41.0	46.9	52.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)