

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: P563659

Luminaire Tested: FSR-24-4-LD4-4HI-35-UNV-81-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563659
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-LD4-4HI-35-UNV-81-94-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18231.0 lumens
Efficiency: N/A
Efficacy: 105.5 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

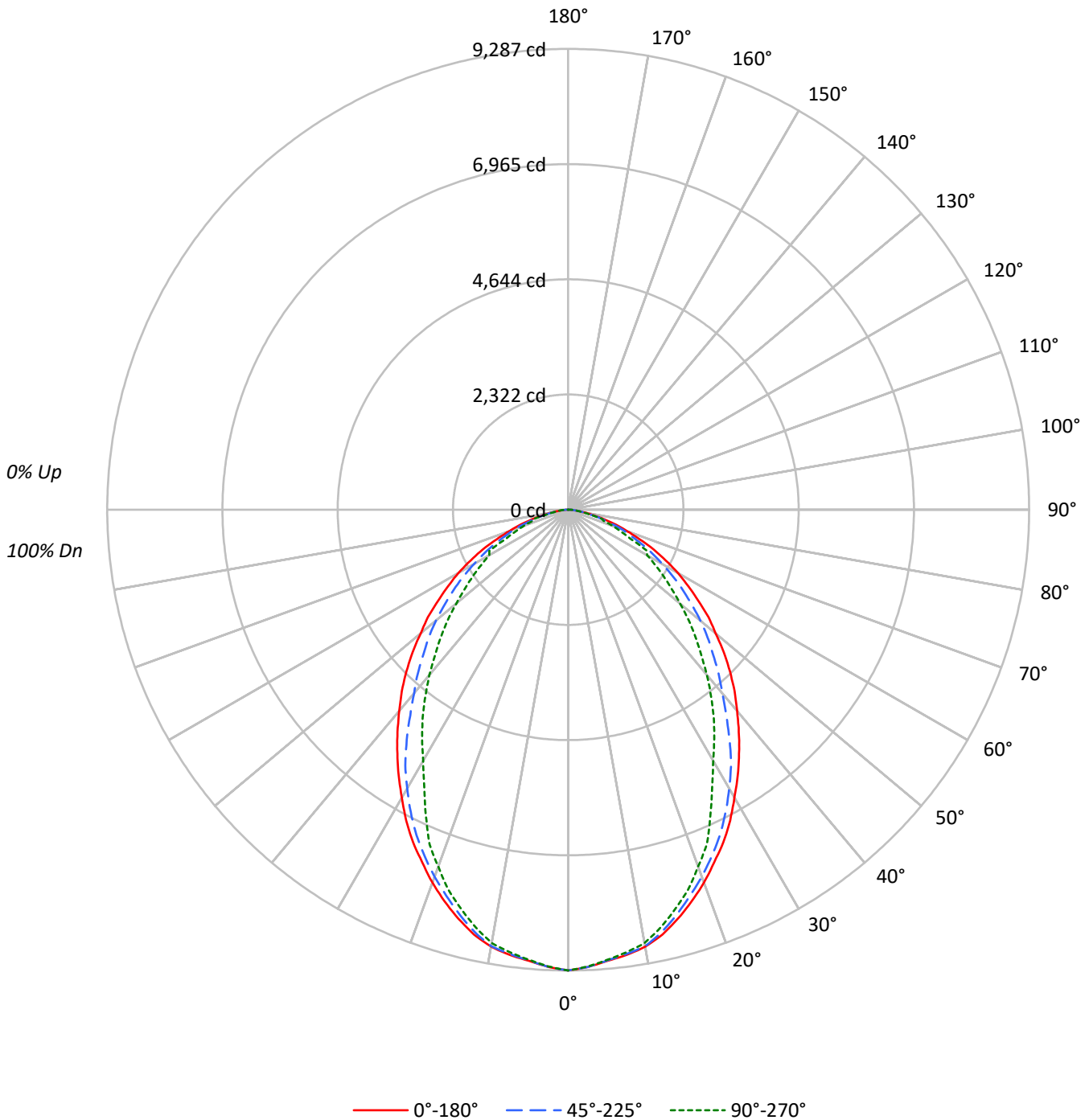
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	12495	12495	12495
5°	12325	12311	12296
10°	12218	12204	12116
15°	11889	11769	11605
20°	11452	11268	10960
25°	10982	10743	10073
30°	10408	10075	9074
35°	9858	9311	8394
40°	9296	8486	7637
45°	8764	7845	6905
50°	8113	7281	6158
55°	7505	6598	5515
60°	6876	5894	4940
65°	6050	5161	4375
70°	4984	4519	3717
75°	3963	3460	3628
80°	2662	2496	2329
85°	1658	1988	2320

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8764 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	864.5	4.7
10°-20°	2372.4	13.0
20°-30°	3284.5	18.0
30°-40°	3502.2	19.2
40°-50°	3195.0	17.5
50°-60°	2503.1	13.7
60°-70°	1631.4	8.9
70°-80°	722.8	4.0
80°-90°	155.2	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°	6521.4	35.8
0°-40°	10023.6	55.0
0°-60°	15721.7	86.2
0°-90°	18231.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	18231.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	9287	9287	9287	9287	9287	
5°	9126	9115	9115	9104	9104	866
15°	8535	8535	8449	8363	8331	2399
25°	7397	7354	7236	6978	6785	3396
35°	6001	5958	5669	5239	5110	3752
45°	4606	4509	4123	3779	3629	3548
55°	3199	3103	2813	2480	2351	2870
65°	1900	1793	1621	1653	1374	1873
75°	762	709	666	633	698	817
85°	107	118	129	140	150	149
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	9286.6	9286.6	9286.6	9286.6	9286.6
2.5°	9222.2	9222.2	9222.2	9211.5	9211.5
5°	9125.6	9114.9	9114.9	9104.1	9104.1
7.5°	9050.4	9039.7	9029.0	9018.2	8996.8
10°	8943.1	8943.1	8932.3	8878.7	8867.9
12.5°	8771.3	8760.6	8717.6	8642.5	8621.0
15°	8535.1	8535.1	8449.2	8363.3	8331.1
17.5°	8277.4	8266.7	8159.3	8073.5	8030.5
20°	7998.3	7976.8	7869.5	7729.9	7654.8
22.5°	7687.0	7687.0	7558.1	7375.6	7300.5
25°	7397.1	7354.2	7236.1	6978.4	6785.1
27.5°	7064.3	6999.9	6871.0	6506.0	6280.6
30°	6699.3	6667.0	6484.5	6012.2	5840.4
32.5°	6355.7	6302.0	6108.8	5614.9	5475.4
35°	6001.4	5958.5	5668.6	5239.2	5110.3
37.5°	5647.1	5593.4	5228.4	4884.9	4723.8
40°	5292.8	5228.4	4831.2	4519.9	4348.1
42.5°	4960.0	4874.1	4487.6	4154.8	3961.6
45°	4605.7	4509.1	4122.6	3779.1	3628.8
47.5°	4251.5	4165.6	3811.3	3457.0	3285.2
50°	3875.7	3800.5	3478.5	3124.2	2941.7
52.5°	3564.3	3446.3	3134.9	2780.6	2630.3
55°	3199.3	3102.7	2812.8	2480.0	2351.2
57.5°	2866.5	2769.9	2501.5	2190.1	2082.8
60°	2555.2	2415.6	2190.1	1921.7	1835.9
62.5°	2211.6	2104.3	1911.0	1685.5	1792.9
65°	1900.3	1792.9	1621.1	1653.3	1374.2
67.5°	1556.7	1503.0	1352.7	1202.4	1159.5
70°	1266.8	1202.4	1148.8	987.7	944.8
72.5°	1009.2	944.8	869.6	783.7	751.5
75°	762.3	708.6	665.6	633.4	697.8
77.5°	526.1	504.6	472.4	440.2	429.4
80°	343.6	332.8	322.1	311.3	300.6
82.5°	204.0	204.0	204.0	204.0	204.0
85°	107.4	118.1	128.8	139.6	150.3
87.5°	64.4	64.4	75.2	85.9	96.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)