

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: P563750

Luminaire Tested: FSR-24-4-LD4-4HI-40-UNV-93-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563750
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-40-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15265.0 lumens
Efficiency: N/A
Efficacy: 88.3 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

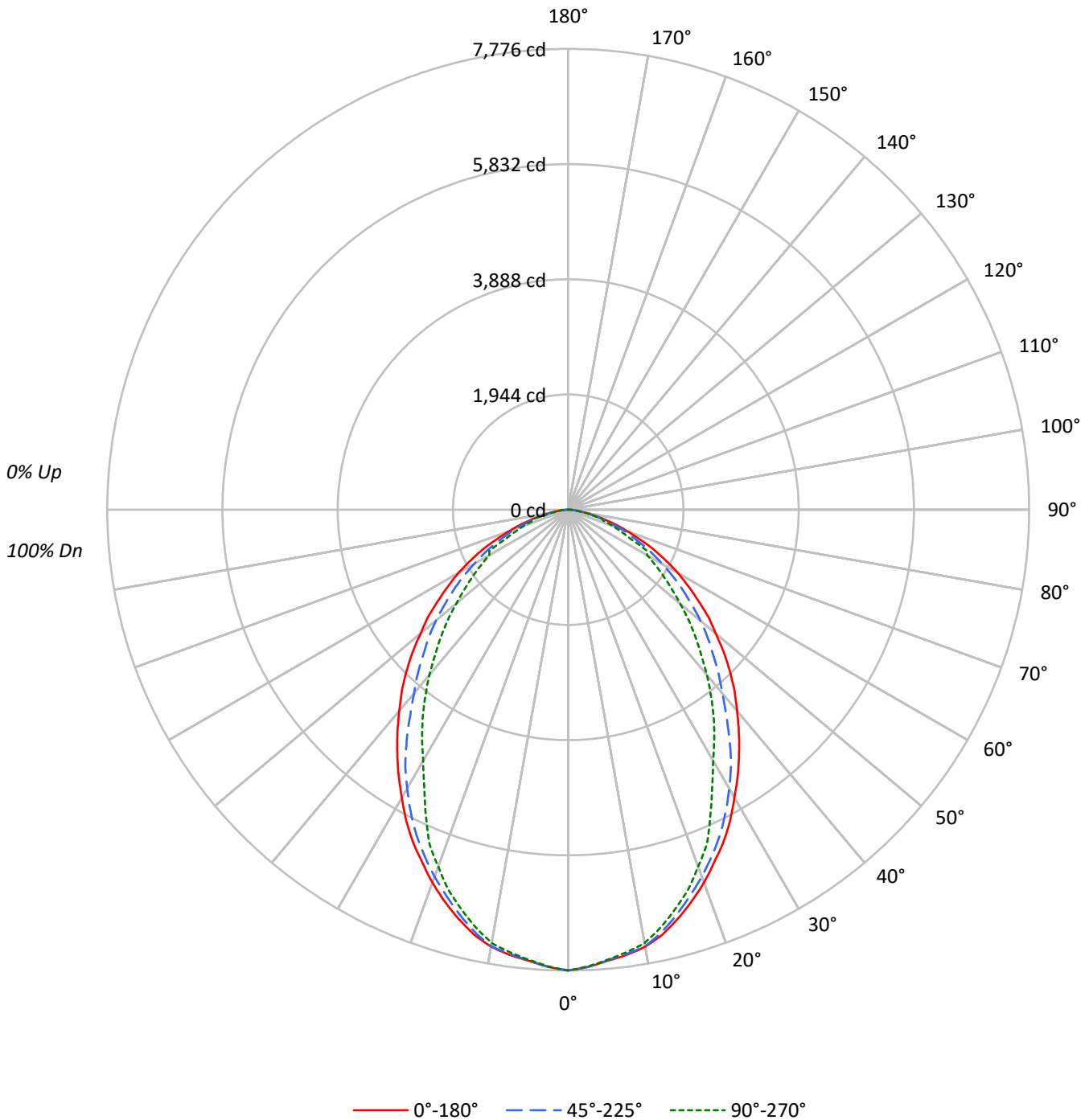
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	10462	10462	10462
5°	10320	10308	10296
10°	10231	10218	10145
15°	9955	9855	9717
20°	9589	9435	9177
25°	9195	8995	8434
30°	8715	8436	7598
35°	8254	7796	7028
40°	7784	7105	6395
45°	7338	6568	5781
50°	6793	6096	5156
55°	6284	5525	4618
60°	5757	4935	4137
65°	5066	4322	3663
70°	4173	3784	3112
75°	3318	2897	3038
80°	2229	2090	1950
85°	1388	1666	1944

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7338 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	723.8	4.7
10°-20°	1986.5	13.0
20°-30°	2750.1	18.0
30°-40°	2932.4	19.2
40°-50°	2675.2	17.5
50°-60°	2095.8	13.7
60°-70°	1366.0	8.9
70°-80°	605.2	4.0
80°-90°	129.9	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°	5460.4	35.8
0°-40°	8392.9	55.0
0°-60°	13163.9	86.2
0°-90°	15265.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15265.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7776	7776	7776	7776	7776	
5°	7641	7632	7632	7623	7623	725
15°	7146	7146	7075	7003	6976	2009
25°	6194	6158	6059	5843	5681	2844
35°	5025	4989	4746	4387	4279	3142
45°	3856	3776	3452	3164	3038	2971
55°	2679	2598	2355	2076	1969	2403
65°	1591	1501	1357	1384	1151	1568
75°	638	593	557	530	584	684
85°	90	99	108	117	126	125
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7775.8	7775.8	7775.8	7775.8	7775.8
2.5°	7721.9	7721.9	7721.9	7712.9	7712.9
5°	7640.9	7632.0	7632.0	7623.0	7623.0
7.5°	7578.0	7569.0	7560.0	7551.1	7533.1
10°	7488.1	7488.1	7479.1	7434.2	7425.2
12.5°	7344.3	7335.3	7299.4	7236.4	7218.4
15°	7146.5	7146.5	7074.6	7002.7	6975.7
17.5°	6930.8	6921.8	6831.9	6760.0	6724.0
20°	6697.1	6679.1	6589.2	6472.3	6409.4
22.5°	6436.4	6436.4	6328.5	6175.7	6112.8
25°	6193.7	6157.7	6058.8	5843.1	5681.3
27.5°	5915.0	5861.1	5753.2	5447.5	5258.8
30°	5609.4	5582.4	5429.6	5034.0	4890.2
32.5°	5321.7	5276.7	5114.9	4701.4	4584.6
35°	5025.0	4989.1	4746.4	4386.8	4278.9
37.5°	4728.4	4683.5	4377.8	4090.2	3955.3
40°	4431.7	4377.8	4045.2	3784.5	3640.7
42.5°	4153.1	4081.2	3757.5	3478.9	3317.1
45°	3856.4	3775.5	3451.9	3164.3	3038.4
47.5°	3559.8	3487.9	3191.2	2894.6	2750.7
50°	3245.2	3182.2	2912.5	2615.9	2463.1
52.5°	2984.5	2885.6	2624.9	2328.2	2202.4
55°	2678.8	2597.9	2355.2	2076.5	1968.7
57.5°	2400.2	2319.3	2094.5	1833.8	1743.9
60°	2139.5	2022.6	1833.8	1609.1	1537.2
62.5°	1851.8	1761.9	1600.1	1411.3	1501.2
65°	1591.1	1501.2	1357.4	1384.4	1150.6
67.5°	1303.5	1258.5	1132.7	1006.8	970.8
70°	1060.7	1006.8	961.9	827.0	791.1
72.5°	845.0	791.1	728.1	656.2	629.3
75°	638.2	593.3	557.3	530.4	584.3
77.5°	440.5	422.5	395.5	368.6	359.6
80°	287.7	278.7	269.7	260.7	251.7
82.5°	170.8	170.8	170.8	170.8	170.8
85°	89.9	98.9	107.9	116.9	125.9
87.5°	53.9	53.9	62.9	71.9	80.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)