

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: P563688

Luminaire Tested: FSR-24-4-LD4-4HI-35-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563688
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-93-88-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13554.0 lumens
Efficiency: N/A
Efficacy: 78.4 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

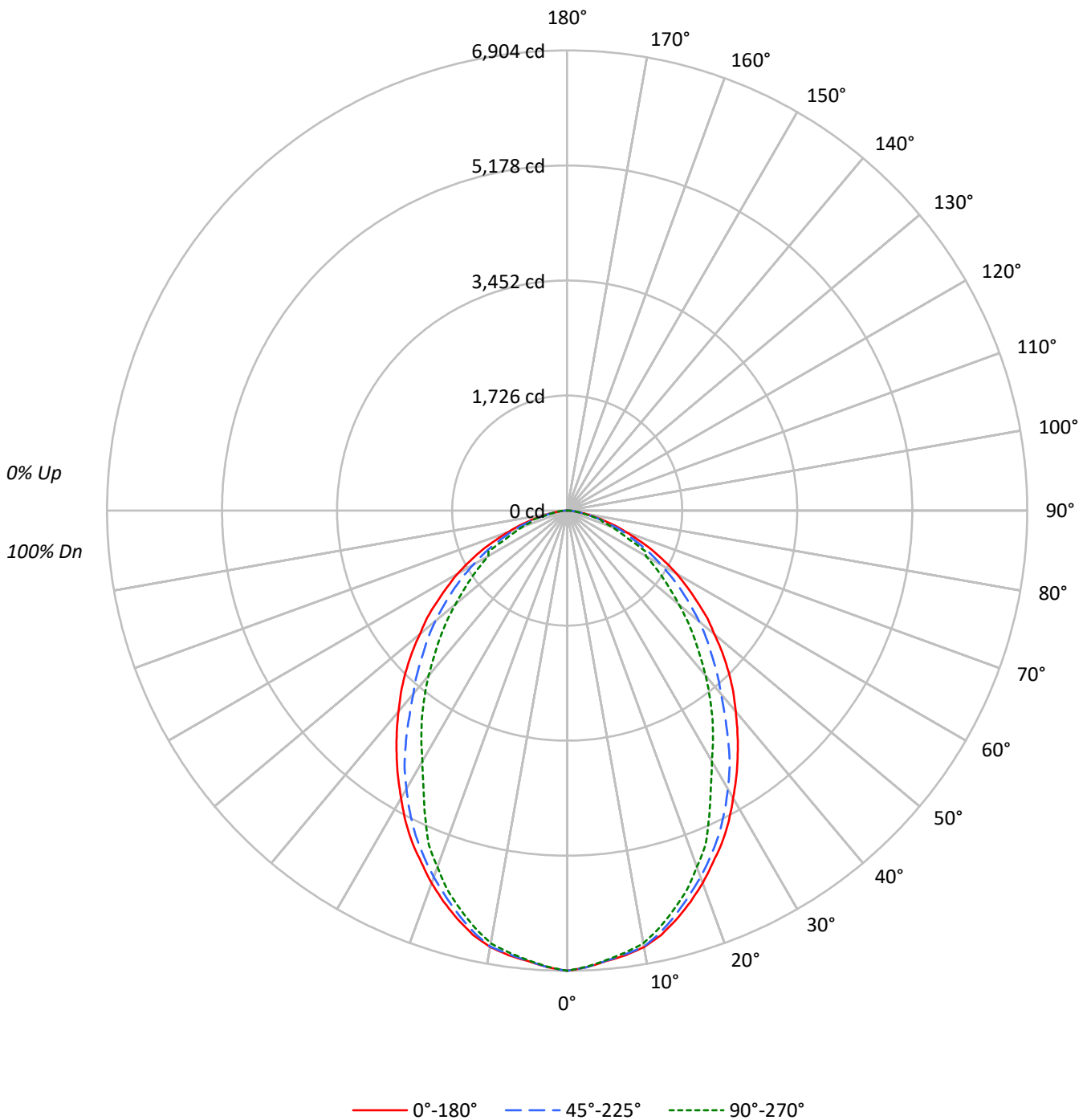
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	9290	9290	9290
5°	9163	9153	9142
10°	9084	9073	9008
15°	8839	8750	8628
20°	8514	8377	8149
25°	8164	7987	7489
30°	7738	7490	6746
35°	7329	6922	6240
40°	6911	6309	5678
45°	6516	5832	5133
50°	6031	5413	4578
55°	5580	4906	4100
60°	5112	4382	3673
65°	4498	3837	3253
70°	3705	3360	2763
75°	2946	2573	2697
80°	1979	1856	1732
85°	1232	1479	1724

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6516 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	642.7	4.7
10°-20°	1763.8	13.0
20°-30°	2441.9	18.0
30°-40°	2603.8	19.2
40°-50°	2375.4	17.5
50°-60°	1860.9	13.7
60°-70°	1212.9	8.9
70°-80°	537.3	4.0
80°-90°	115.4	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°	4848.4	35.8
0°-40°	7452.1	55.0
0°-60°	11688.4	86.2
0°-90°	13554.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13554.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6904	6904	6904	6904	6904	
5°	6784	6776	6776	6768	6768	644
15°	6346	6346	6282	6218	6194	1784
25°	5499	5468	5380	5188	5044	2525
35°	4462	4430	4214	3895	3799	2789
45°	3424	3352	3065	2810	2698	2638
55°	2379	2307	2091	1844	1748	2133
65°	1413	1333	1205	1229	1022	1392
75°	567	527	495	471	519	607
85°	80	88	96	104	112	111
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6904.2	6904.2	6904.2	6904.2	6904.2
2.5°	6856.3	6856.3	6856.3	6848.4	6848.4
5°	6784.5	6776.5	6776.5	6768.5	6768.5
7.5°	6728.6	6720.6	6712.7	6704.7	6688.7
10°	6648.8	6648.8	6640.8	6600.9	6592.9
12.5°	6521.1	6513.1	6481.2	6425.3	6409.4
15°	6345.5	6345.5	6281.6	6217.8	6193.8
17.5°	6153.9	6146.0	6066.1	6002.3	5970.4
20°	5946.4	5930.5	5850.6	5746.9	5691.0
22.5°	5714.9	5714.9	5619.2	5483.5	5427.6
25°	5499.4	5467.5	5379.7	5188.1	5044.5
27.5°	5252.0	5204.1	5108.3	4836.9	4669.3
30°	4980.6	4956.7	4821.0	4469.8	4342.1
32.5°	4725.2	4685.3	4541.6	4174.5	4070.7
35°	4461.8	4429.9	4214.4	3895.1	3799.3
37.5°	4198.4	4158.5	3887.1	3631.7	3512.0
40°	3935.0	3887.1	3591.8	3360.3	3232.6
42.5°	3687.6	3623.7	3336.4	3088.9	2945.3
45°	3424.2	3352.3	3065.0	2809.6	2697.8
47.5°	3160.8	3096.9	2833.5	2570.1	2442.4
50°	2881.4	2825.5	2586.1	2322.7	2187.0
52.5°	2649.9	2562.1	2330.7	2067.3	1955.5
55°	2378.6	2306.7	2091.2	1843.8	1748.0
57.5°	2131.1	2059.3	1859.8	1628.3	1548.5
60°	1899.7	1795.9	1628.3	1428.7	1364.9
62.5°	1644.2	1564.4	1420.8	1253.1	1333.0
65°	1412.8	1333.0	1205.2	1229.2	1021.7
67.5°	1157.4	1117.4	1005.7	894.0	862.0
70°	941.8	894.0	854.0	734.3	702.4
72.5°	750.3	702.4	646.5	582.7	558.7
75°	566.7	526.8	494.9	470.9	518.8
77.5°	391.1	375.1	351.2	327.3	319.3
80°	255.4	247.4	239.5	231.5	223.5
82.5°	151.7	151.7	151.7	151.7	151.7
85°	79.8	87.8	95.8	103.8	111.7
87.5°	47.9	47.9	55.9	63.9	71.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)