

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: P563758

Luminaire Tested: FSR-24-4-LD4-4HI-40-UNV-93-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563758
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-93-97-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15559.0 lumens
Efficiency: N/A
Efficacy: 90.0 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

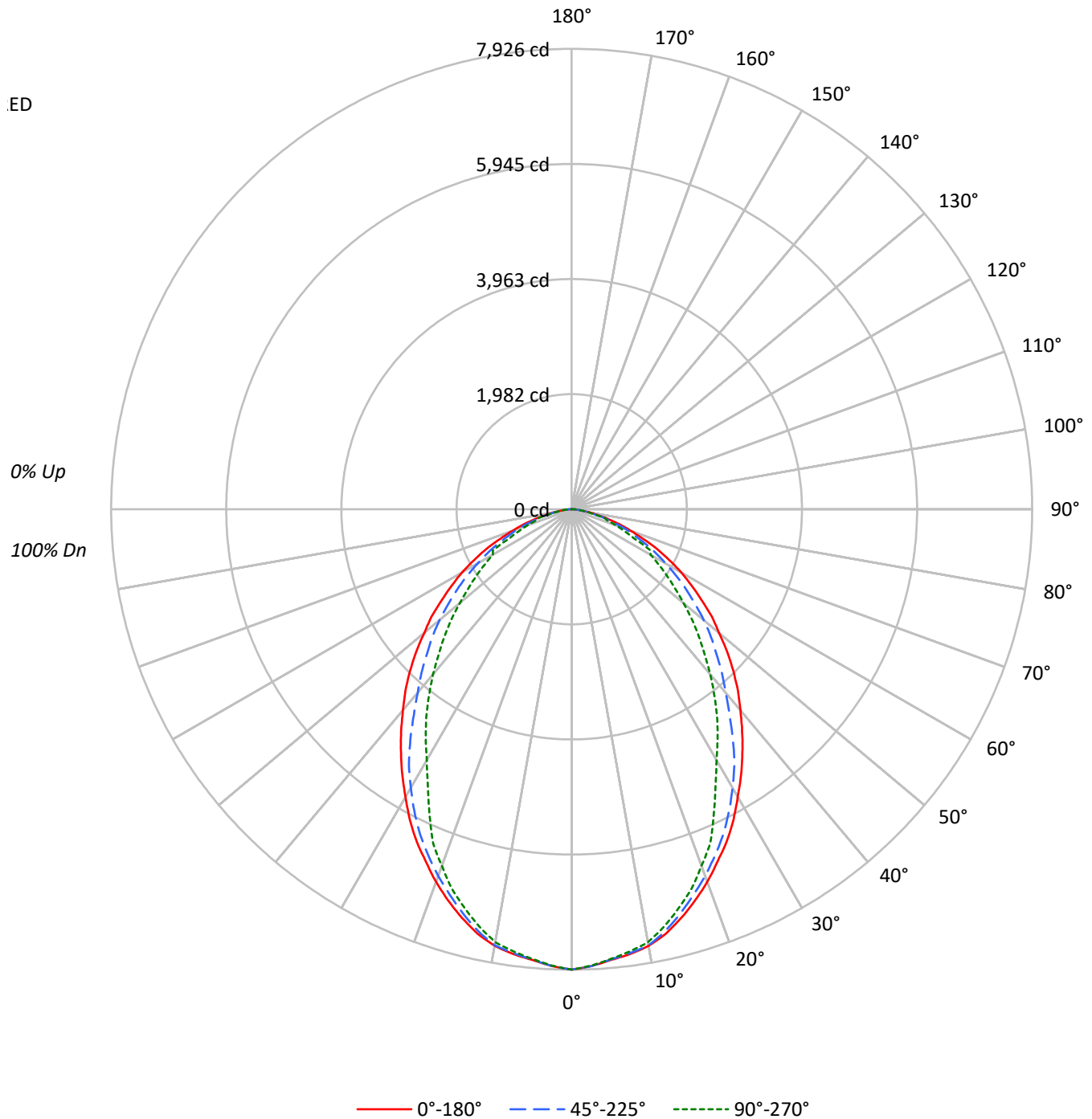
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	10664	10664	10664
5°	10519	10506	10494
10°	10428	10415	10340
15°	10147	10044	9904
20°	9774	9616	9354
25°	9372	9168	8597
30°	8883	8598	7744
35°	8413	7946	7164
40°	7934	7242	6518
45°	7479	6695	5893
50°	6924	6214	5255
55°	6405	5631	4707
60°	5868	5030	4216
65°	5163	4405	3734
70°	4253	3857	3172
75°	3382	2953	3096
80°	2272	2130	1987
85°	1414	1697	1981

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7479 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	737.8	4.7
10°-20°	2024.7	13.0
20°-30°	2803.1	18.0
30°-40°	2988.9	19.2
40°-50°	2726.8	17.5
50°-60°	2136.2	13.7
60°-70°	1392.3	8.9
70°-80°	616.8	4.0
80°-90°	132.4	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°	5565.6	35.8
0°-40°	8554.5	55.0
0°-60°	13417.5	86.2
0°-90°	15559.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15559.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7926	7926	7926	7926	7926	
5°	7788	7779	7779	7770	7770	739
15°	7284	7284	7211	7138	7110	2048
25°	6313	6276	6176	5956	5791	2898
35°	5122	5085	4838	4471	4361	3202
45°	3931	3848	3518	3225	3097	3028
55°	2730	2648	2401	2116	2007	2449
65°	1622	1530	1384	1411	1173	1598
75°	650	605	568	541	596	697
85°	92	101	110	119	128	127
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7925.5	7925.5	7925.5	7925.5	7925.5
2.5°	7870.6	7870.6	7870.6	7861.4	7861.4
5°	7788.1	7778.9	7778.9	7769.8	7769.8
7.5°	7724.0	7714.8	7705.6	7696.5	7678.2
10°	7632.3	7632.3	7623.2	7577.4	7568.2
12.5°	7485.7	7476.6	7439.9	7375.8	7357.5
15°	7284.2	7284.2	7210.9	7137.6	7110.1
17.5°	7064.3	7055.1	6963.5	6890.2	6853.5
20°	6826.0	6807.7	6716.1	6597.0	6532.8
22.5°	6560.3	6560.3	6450.4	6294.6	6230.5
25°	6312.9	6276.3	6175.5	5955.6	5790.7
27.5°	6028.9	5973.9	5864.0	5552.5	5360.1
30°	5717.4	5689.9	5534.1	5131.0	4984.4
32.5°	5424.2	5378.4	5213.5	4792.0	4672.9
35°	5121.8	5085.2	4837.8	4471.3	4361.3
37.5°	4819.5	4773.7	4462.1	4168.9	4031.5
40°	4517.1	4462.1	4123.1	3857.4	3710.8
42.5°	4233.1	4159.8	3829.9	3545.9	3381.0
45°	3930.7	3848.2	3518.4	3225.2	3096.9
47.5°	3628.3	3555.0	3252.7	2950.3	2803.7
50°	3307.7	3243.5	2968.6	2666.3	2510.5
52.5°	3041.9	2941.2	2675.4	2373.1	2244.8
55°	2730.4	2648.0	2400.6	2116.5	2006.6
57.5°	2446.4	2363.9	2134.9	1869.1	1777.5
60°	2180.7	2061.6	1869.1	1640.1	1566.8
62.5°	1887.5	1795.8	1630.9	1438.5	1530.1
65°	1621.8	1530.1	1383.5	1411.0	1172.8
67.5°	1328.6	1282.7	1154.5	1026.2	989.5
70°	1081.2	1026.2	980.4	842.9	806.3
72.5°	861.3	806.3	742.2	668.9	641.4
75°	650.5	604.7	568.1	540.6	595.6
77.5°	449.0	430.6	403.1	375.7	366.5
80°	293.2	284.0	274.9	265.7	256.5
82.5°	174.1	174.1	174.1	174.1	174.1
85°	91.6	100.8	109.9	119.1	128.3
87.5°	55.0	55.0	64.1	73.3	82.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)