

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: P563681

Luminaire Tested: FSR-24-4-LD4-4HI-35-UNV-93-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563681
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-93-84-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19184.0 lumens
Efficiency: N/A
Efficacy: 111.0 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

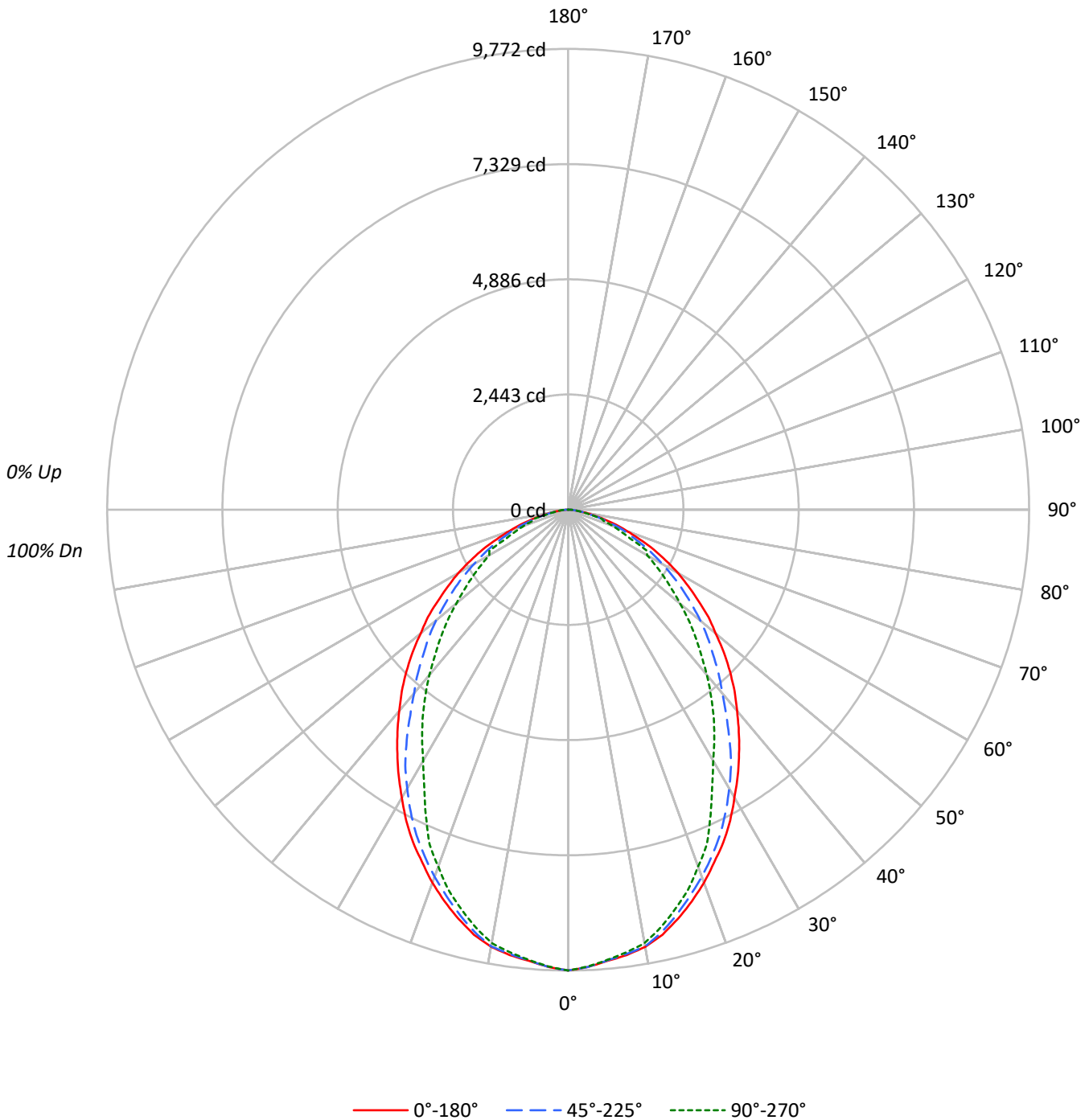
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	13148	13148	13148
5°	12970	12954	12939
10°	12857	12842	12749
15°	12511	12385	12211
20°	12051	11857	11533
25°	11556	11304	10600
30°	10952	10601	9548
35°	10373	9798	8833
40°	9782	8929	8036
45°	9222	8255	7266
50°	8537	7662	6479
55°	7897	6943	5804
60°	7235	6202	5198
65°	6366	5431	4604
70°	5244	4755	3911
75°	4170	3641	3817
80°	2801	2626	2451
85°	1744	2093	2442

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9222 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	909.6	4.7
10°-20°	2496.5	13.0
20°-30°	3456.2	18.0
30°-40°	3685.3	19.2
40°-50°	3362.0	17.5
50°-60°	2633.9	13.7
60°-70°	1716.6	8.9
70°-80°	760.6	4.0
80°-90°	163.3	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°	6862.3	35.8
0°-40°	10547.6	55.0
0°-60°	16543.5	86.2
0°-90°	19184.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	19184.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	9772	9772	9772	9772	9772	
5°	9603	9591	9591	9580	9580	912
15°	8981	8981	8891	8800	8767	2525
25°	7784	7739	7614	7343	7140	3574
35°	6315	6270	5965	5513	5378	3948
45°	4846	4745	4338	3977	3818	3733
55°	3367	3265	2960	2610	2474	3020
65°	2000	1887	1706	1740	1446	1971
75°	802	746	700	666	734	860
85°	113	124	136	147	158	157
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	9772.1	9772.1	9772.1	9772.1	9772.1
2.5°	9704.3	9704.3	9704.3	9693.0	9693.0
5°	9602.6	9591.3	9591.3	9580.0	9580.0
7.5°	9523.5	9512.2	9500.9	9489.6	9467.0
10°	9410.6	9410.6	9399.3	9342.8	9331.5
12.5°	9229.8	9218.5	9173.3	9094.2	9071.6
15°	8981.3	8981.3	8890.9	8800.5	8766.6
17.5°	8710.1	8698.8	8585.9	8495.5	8450.3
20°	8416.4	8393.8	8280.8	8134.0	8054.9
22.5°	8088.8	8088.8	7953.2	7761.2	7682.1
25°	7783.8	7738.6	7614.3	7343.2	7139.8
27.5°	7433.6	7365.8	7230.2	6846.1	6608.9
30°	7049.4	7015.6	6823.5	6326.4	6145.7
32.5°	6687.9	6631.5	6428.1	5908.4	5761.6
35°	6315.1	6269.9	5964.9	5513.0	5377.5
37.5°	5942.3	5885.8	5501.7	5140.2	4970.8
40°	5569.5	5501.7	5083.7	4756.1	4575.4
42.5°	5219.3	5128.9	4722.2	4372.0	4168.7
45°	4846.5	4744.8	4338.1	3976.6	3818.5
47.5°	4473.7	4383.3	4010.5	3637.7	3456.9
50°	4078.3	3999.2	3660.3	3287.5	3095.4
52.5°	3750.7	3626.4	3298.8	2926.0	2767.8
55°	3366.6	3264.9	2959.9	2609.7	2474.1
57.5°	3016.4	2914.7	2632.2	2304.6	2191.7
60°	2688.7	2541.9	2304.6	2022.2	1931.8
62.5°	2327.2	2214.3	2010.9	1773.7	1886.6
65°	1999.6	1886.6	1705.9	1739.8	1446.0
67.5°	1638.1	1581.6	1423.4	1265.3	1220.1
70°	1333.1	1265.3	1208.8	1039.3	994.2
72.5°	1061.9	994.2	915.1	824.7	790.8
75°	802.1	745.6	700.4	666.5	734.3
77.5°	553.6	531.0	497.1	463.2	451.9
80°	361.5	350.2	338.9	327.6	316.3
82.5°	214.6	214.6	214.6	214.6	214.6
85°	113.0	124.3	135.6	146.9	158.2
87.5°	67.8	67.8	79.1	90.4	101.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)