

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: P563624

Luminaire Tested: FSR-24-4-LD4-3STD-50-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563624
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-LD4-3STD-50-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 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8851.0 lumens
Efficiency: N/A
Efficacy: 88.6 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

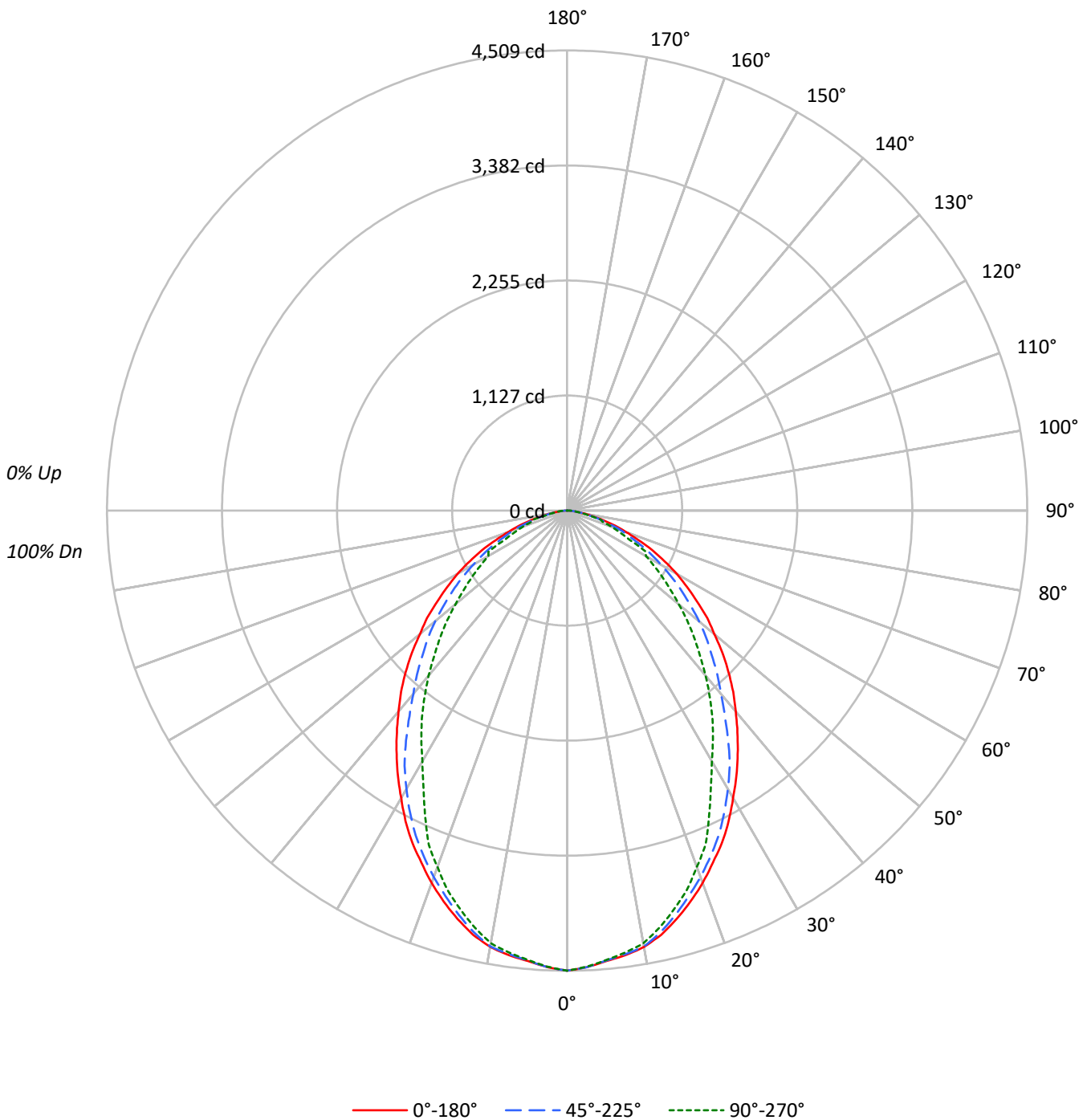
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	6066	6066	6066
5°	5984	5977	5970
10°	5932	5925	5882
15°	5772	5714	5634
20°	5560	5470	5321
25°	5331	5215	4890
30°	5053	4891	4405
35°	4786	4520	4075
40°	4513	4120	3708
45°	4255	3808	3352
50°	3939	3535	2990
55°	3643	3203	2678
60°	3338	2861	2398
65°	2937	2506	2124
70°	2419	2194	1805
75°	1924	1680	1761
80°	1292	1212	1130
85°	804	965	1127

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4255 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	419.7	4.7
10°-20°	1151.8	13.0
20°-30°	1594.6	18.0
30°-40°	1700.3	19.2
40°-50°	1551.2	17.5
50°-60°	1215.2	13.7
60°-70°	792.0	8.9
70°-80°	350.9	4.0
80°-90°	75.3	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°	3166.1	35.8
0°-40°	4866.4	55.0
0°-60°	7632.8	86.2
0°-90°	8851.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8851.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4509	4509	4509	4509	4509	
5°	4430	4425	4425	4420	4420	421
15°	4144	4144	4102	4060	4045	1165
25°	3591	3570	3513	3388	3294	1649
35°	2914	2893	2752	2544	2481	1822
45°	2236	2189	2002	1835	1762	1722
55°	1553	1506	1366	1204	1142	1393
65°	923	870	787	803	667	909
75°	370	344	323	308	339	397
85°	52	57	62	68	73	72
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4508.6	4508.6	4508.6	4508.6	4508.6
2.5°	4477.3	4477.3	4477.3	4472.1	4472.1
5°	4430.4	4425.2	4425.2	4420.0	4420.0
7.5°	4393.9	4388.7	4383.5	4378.3	4367.9
10°	4341.8	4341.8	4336.6	4310.5	4305.3
12.5°	4258.4	4253.2	4232.3	4195.8	4185.4
15°	4143.7	4143.7	4102.0	4060.3	4044.7
17.5°	4018.6	4013.4	3961.3	3919.6	3898.7
20°	3883.1	3872.7	3820.6	3752.8	3716.3
22.5°	3732.0	3732.0	3669.4	3580.8	3544.3
25°	3591.2	3570.4	3513.0	3388.0	3294.1
27.5°	3429.6	3398.4	3335.8	3158.6	3049.2
30°	3252.4	3236.8	3148.2	2918.9	2835.5
32.5°	3085.6	3059.6	2965.8	2726.0	2658.2
35°	2913.6	2892.8	2752.1	2543.6	2481.0
37.5°	2741.6	2715.6	2538.4	2371.6	2293.4
40°	2569.6	2538.4	2345.5	2194.3	2111.0
42.5°	2408.1	2366.4	2178.7	2017.1	1923.3
45°	2236.0	2189.1	2001.5	1834.7	1761.7
47.5°	2064.0	2022.3	1850.3	1678.3	1594.9
50°	1881.6	1845.1	1688.8	1516.8	1428.2
52.5°	1730.5	1673.1	1522.0	1350.0	1277.0
55°	1553.2	1506.3	1365.6	1204.0	1141.5
57.5°	1391.7	1344.8	1214.5	1063.3	1011.2
60°	1240.5	1172.8	1063.3	933.0	891.3
62.5°	1073.7	1021.6	927.8	818.3	870.4
65°	922.6	870.4	787.0	802.7	667.2
67.5°	755.8	729.7	656.7	583.8	562.9
70°	615.0	583.8	557.7	479.5	458.7
72.5°	489.9	458.7	422.2	380.5	364.9
75°	370.1	344.0	323.2	307.5	338.8
77.5°	255.4	245.0	229.3	213.7	208.5
80°	166.8	161.6	156.4	151.2	145.9
82.5°	99.0	99.0	99.0	99.0	99.0
85°	52.1	57.3	62.5	67.8	73.0
87.5°	31.3	31.3	36.5	41.7	46.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)