

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: P563755

Luminaire Tested: FSR-24-4-LD4-4HI-40-UNV-93-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563755
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-93-94-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19421.0 lumens
Efficiency: N/A
Efficacy: 112.4 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

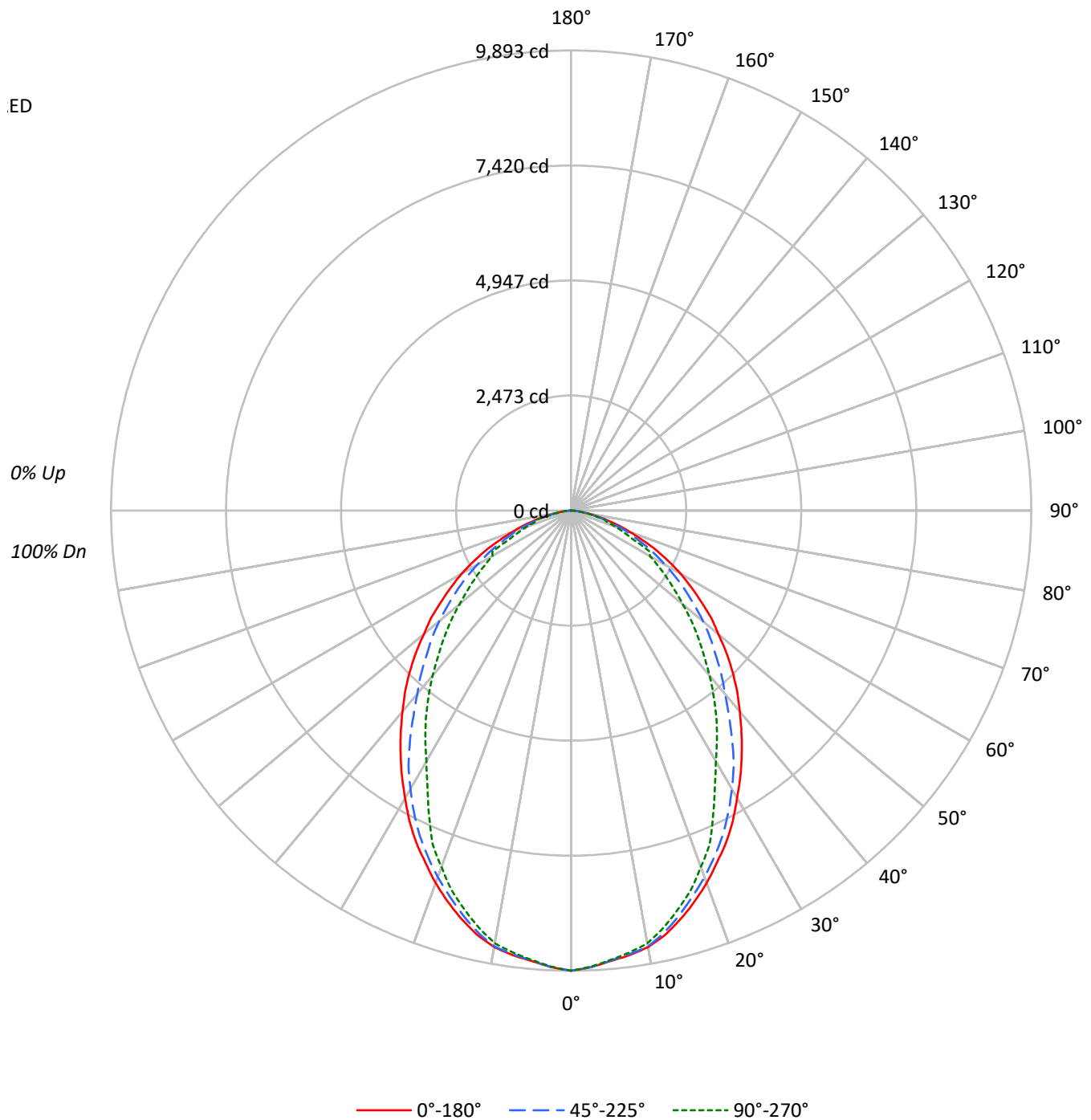
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	13311	13311	13311
5°	13130	13114	13099
10°	13016	13000	12907
15°	12665	12538	12362
20°	12200	12003	11676
25°	11698	11444	10731
30°	11088	10732	9666
35°	10501	9919	8942
40°	9903	9039	8136
45°	9336	8357	7355
50°	8642	7756	6559
55°	7995	7029	5875
60°	7325	6278	5263
65°	6445	5498	4661
70°	5309	4814	3959
75°	4221	3686	3865
80°	2836	2658	2481
85°	1766	2118	2472

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9336 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	920.9	4.7
10°-20°	2527.3	13.0
20°-30°	3498.9	18.0
30°-40°	3730.8	19.2
40°-50°	3403.6	17.5
50°-60°	2666.4	13.7
60°-70°	1737.8	8.9
70°-80°	769.9	4.0
80°-90°	165.3	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°	6947.0	35.8
0°-40°	10677.9	55.0
0°-60°	16747.9	86.2
0°-90°	19421.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	19421.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	9893	9893	9893	9893	9893	
5°	9721	9710	9710	9698	9698	923
15°	9092	9092	9001	8909	8875	2556
25°	7880	7834	7708	7434	7228	3618
35°	6393	6347	6039	5581	5444	3997
45°	4906	4803	4392	4026	3866	3779
55°	3408	3305	2996	2642	2505	3057
65°	2024	1910	1727	1761	1464	1995
75°	812	755	709	675	743	870
85°	114	126	137	149	160	159
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	9892.8	9892.8	9892.8	9892.8	9892.8
2.5°	9824.2	9824.2	9824.2	9812.7	9812.7
5°	9721.2	9709.8	9709.8	9698.4	9698.4
7.5°	9641.2	9629.8	9618.3	9606.9	9584.0
10°	9526.8	9526.8	9515.4	9458.2	9446.8
12.5°	9343.8	9332.4	9286.6	9206.6	9183.7
15°	9092.2	9092.2	9000.7	8909.2	8874.9
17.5°	8817.7	8806.3	8691.9	8600.4	8554.7
20°	8520.4	8497.5	8383.1	8234.5	8154.4
22.5°	8188.7	8188.7	8051.5	7857.1	7777.0
25°	7879.9	7834.2	7708.4	7433.9	7228.0
27.5°	7525.4	7456.8	7319.5	6930.7	6690.5
30°	7136.5	7102.2	6907.8	6404.6	6221.6
32.5°	6770.6	6713.4	6507.5	5981.4	5832.7
35°	6393.1	6347.4	6038.6	5581.1	5443.9
37.5°	6015.7	5958.6	5569.7	5203.7	5032.2
40°	5638.3	5569.7	5146.5	4814.9	4631.9
42.5°	5283.8	5192.3	4780.6	4426.0	4220.2
45°	4906.4	4803.4	4391.7	4025.7	3865.6
47.5°	4529.0	4437.5	4060.1	3682.6	3499.6
50°	4128.7	4048.6	3705.5	3328.1	3133.7
52.5°	3797.0	3671.2	3339.5	2962.1	2802.0
55°	3408.2	3305.2	2996.4	2641.9	2504.7
57.5°	3053.6	2950.7	2664.8	2333.1	2218.7
60°	2721.9	2573.3	2333.1	2047.2	1955.7
62.5°	2356.0	2241.6	2035.7	1795.6	1909.9
65°	2024.3	1909.9	1727.0	1761.3	1463.9
67.5°	1658.3	1601.1	1441.0	1280.9	1235.2
70°	1349.5	1280.9	1223.7	1052.2	1006.4
72.5°	1075.1	1006.4	926.4	834.9	800.6
75°	812.0	754.8	709.1	674.8	743.4
77.5°	560.4	537.5	503.2	468.9	457.5
80°	366.0	354.5	343.1	331.7	320.2
82.5°	217.3	217.3	217.3	217.3	217.3
85°	114.4	125.8	137.2	148.7	160.1
87.5°	68.6	68.6	80.1	91.5	102.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)