

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: P590770

Luminaire Tested: FSR-24-2-LD4-4HI-40-UNV-93-94-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590770
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-4HI-40-UNV-93-94-EDD
Description: 2X2 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: 9711.0 lumens
Efficiency: N/A
Efficacy: 112.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

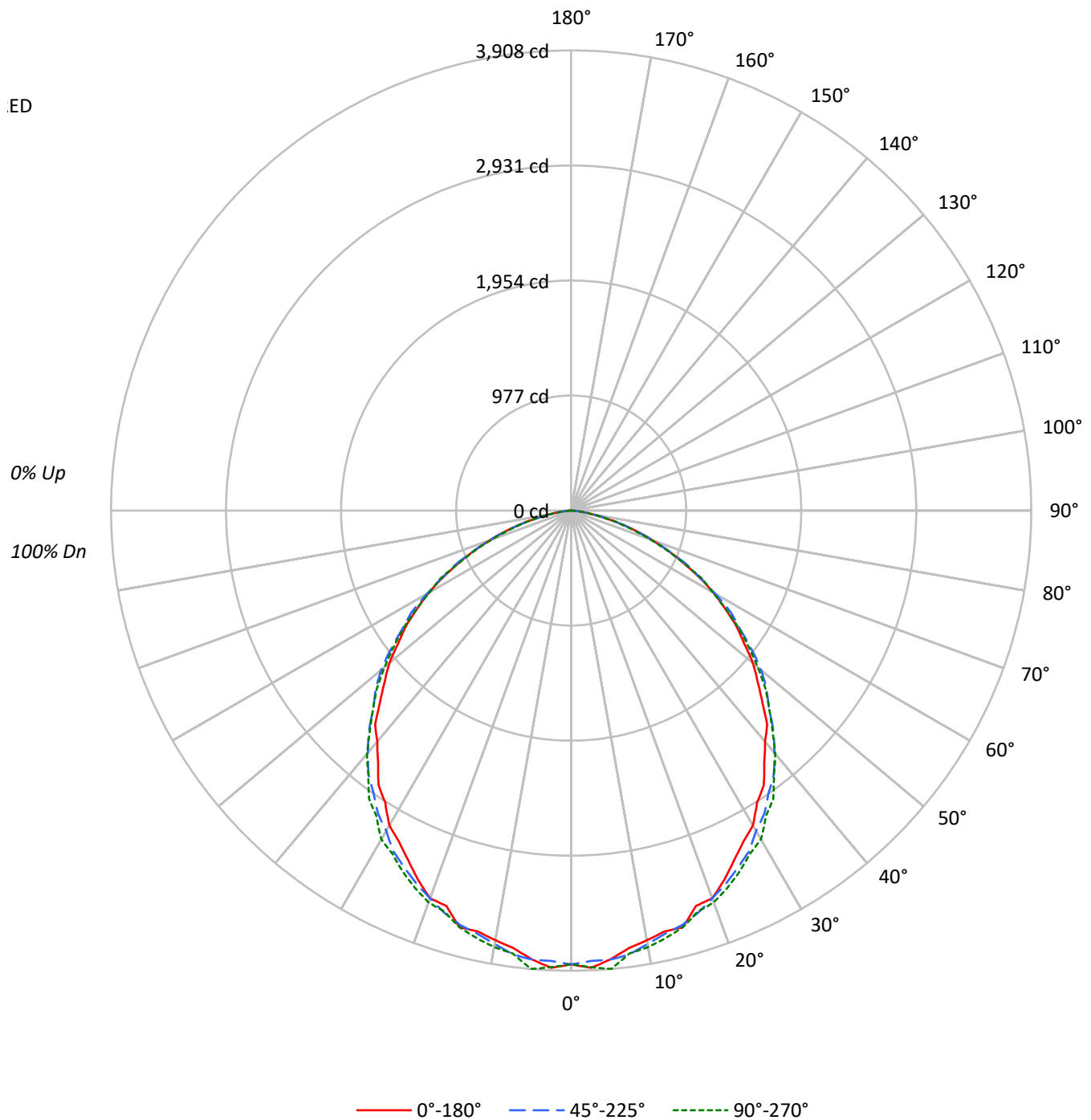
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86																												
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73																												
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62																												
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53																												
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46																												
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41																												
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36																												
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32																												
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29																												
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10369	10369	10369
5°	10334	10338	10556
10°	10125	10213	10285
15°	10205	10149	10206
20°	10032	10032	10139
25°	9724	9937	10046
30°	9590	9759	10018
35°	9364	9610	9825
40°	9000	9434	9475
45°	8728	9038	9052
50°	8441	8822	8654
55°	8043	8199	8141
60°	7521	7596	7459
65°	6706	6877	6658
70°	5754	5773	5613
75°	4557	4547	4371
80°	3053	2968	2853
85°	1658	1643	1535

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 9271 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	362.4	3.7
10°-20°	1027.2	10.6
20°-30°	1539.0	15.8
30°-40°	1824.0	18.8
40°-50°	1827.4	18.8
50°-60°	1551.1	16.0
60°-70°	1045.8	10.8
70°-80°	459.5	4.7
80°-90°	74.7	0.8
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°	2928.6	30.2
0°-40°	4752.6	48.9
0°-60°	8131.1	83.7
0°-90°	9711.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9711.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3853	3853	3853	3853	3853	
5°	3826	3817	3827	3816	3908	361
15°	3663	3621	3643	3662	3664	1021
25°	3275	3293	3347	3390	3383	1514
35°	2851	2859	2925	2993	2991	1770
45°	2293	2336	2375	2436	2378	1774
55°	1714	1703	1748	1736	1735	1525
65°	1053	1039	1080	1039	1046	1047
75°	438	429	437	406	420	470
85°	54	52	53	52	50	78
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3853.1	3853.1	3853.1	3853.1	3853.1
2.5°	3886.4	3857.1	3829.7	3861.5	3880.9
5°	3825.7	3816.8	3827.2	3815.8	3907.8
7.5°	3747.1	3781.4	3801.3	3788.9	3794.4
10°	3705.3	3693.4	3737.7	3768.5	3764.0
12.5°	3660.5	3678.5	3680.9	3714.3	3717.3
15°	3663.0	3620.8	3643.1	3662.0	3663.5
17.5°	3520.8	3566.5	3581.9	3625.2	3571.5
20°	3503.3	3470.0	3503.3	3547.6	3540.7
22.5°	3396.4	3359.1	3430.7	3470.0	3467.5
25°	3275.0	3292.9	3346.6	3390.4	3383.4
27.5°	3168.5	3189.4	3266.0	3326.2	3287.4
30°	3086.4	3076.0	3140.7	3194.4	3224.2
32.5°	2939.7	2977.5	3053.1	3106.3	3078.0
35°	2850.6	2859.1	2925.3	2992.9	2990.9
37.5°	2694.9	2734.2	2827.2	2846.2	2828.7
40°	2562.1	2601.4	2685.5	2705.9	2697.4
42.5°	2464.1	2471.0	2543.2	2566.6	2529.3
45°	2293.4	2336.2	2375.0	2436.2	2378.5
47.5°	2148.2	2168.1	2251.7	2268.1	2237.7
50°	2016.3	2023.3	2107.4	2087.0	2067.1
52.5°	1850.7	1880.0	1927.3	1923.3	1899.9
55°	1714.4	1702.9	1747.7	1735.8	1735.3
57.5°	1550.7	1570.6	1607.4	1588.5	1558.1
60°	1397.5	1398.0	1411.4	1390.0	1386.0
62.5°	1226.8	1232.8	1235.8	1209.4	1252.2
65°	1053.2	1039.3	1080.1	1038.8	1045.7
67.5°	893.5	900.5	896.5	870.6	880.6
70°	731.3	740.3	733.8	704.4	713.4
72.5°	583.1	572.1	579.1	542.3	559.2
75°	438.3	429.3	437.3	406.5	420.4
77.5°	298.5	305.5	300.5	284.1	293.5
80°	197.0	191.5	191.5	182.1	184.1
82.5°	114.9	109.4	108.0	105.0	109.4
85°	53.7	52.2	53.2	51.7	49.7
87.5°	19.4	19.9	19.9	18.9	17.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)