

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: P590803

Luminaire Tested: FSR-24-2-LD4-4HI-50-UNV-93-96-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590803
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-50-UNV-93-96-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9766.1 lumens
Efficiency: N/A
Efficacy: 113.0 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

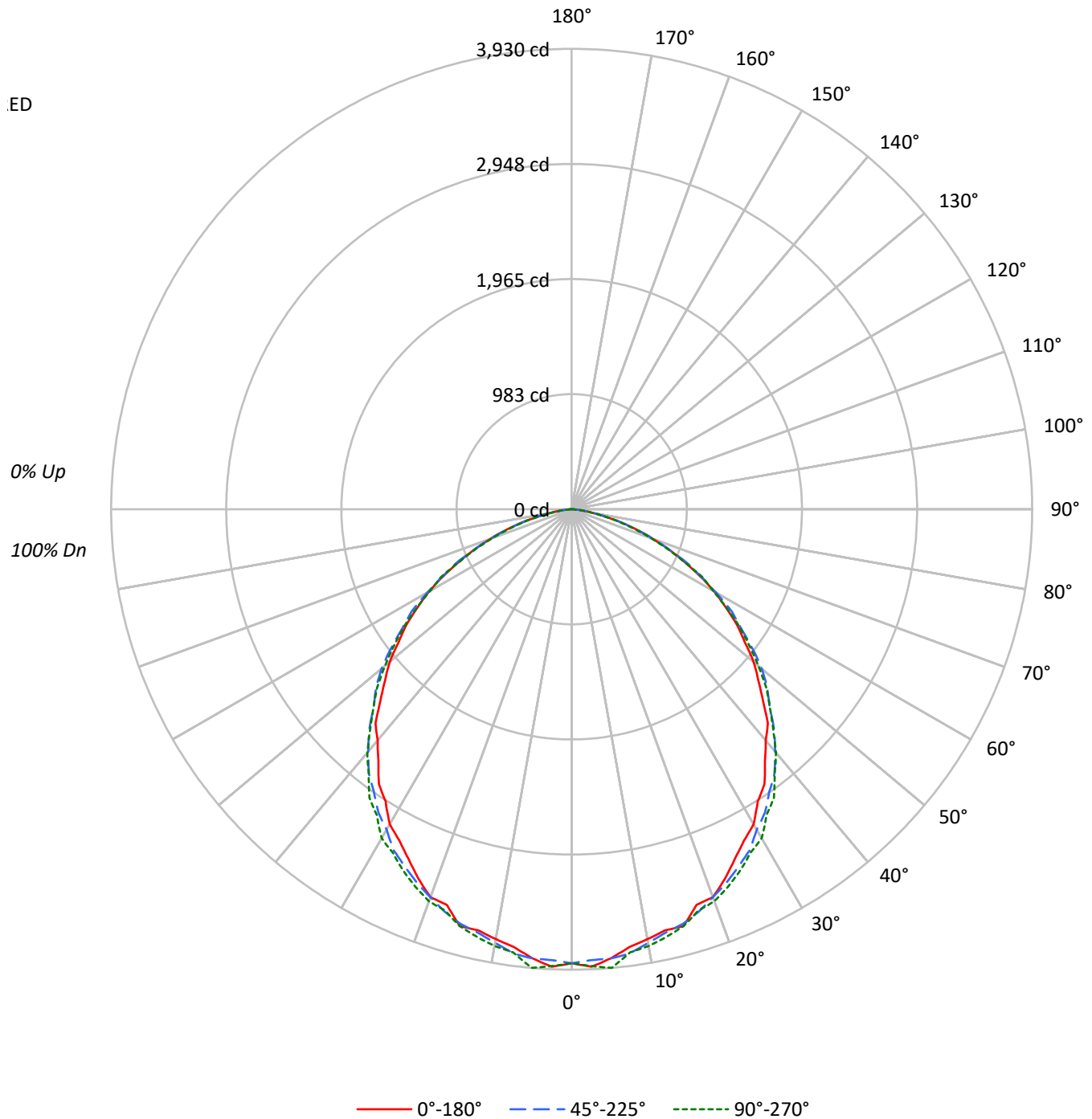
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	10427	10427	10427
5°	10393	10397	10616
10°	10182	10271	10343
15°	10263	10207	10264
20°	10089	10089	10197
25°	9779	9993	10103
30°	9645	9814	10075
35°	9418	9664	9881
40°	9051	9487	9529
45°	8777	9090	9103
50°	8489	8872	8703
55°	8089	8246	8187
60°	7564	7639	7502
65°	6744	6916	6697
70°	5787	5807	5644
75°	4583	4573	4396
80°	3070	2985	2868
85°	1667	1652	1544

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 9324 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	364.5	3.7
10°-20°	1033.0	10.6
20°-30°	1547.7	15.8
30°-40°	1834.3	18.8
40°-50°	1837.7	18.8
50°-60°	1559.9	16.0
60°-70°	1051.7	10.8
70°-80°	462.1	4.7
80°-90°	75.1	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°	2945.2	30.2
0°-40°	4779.5	48.9
0°-60°	8177.1	83.7
0°-90°	9766.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9766.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3875	3875	3875	3875	3875	
5°	3847	3838	3849	3837	3930	363
15°	3684	3641	3664	3683	3684	1026
25°	3294	3312	3366	3410	3403	1523
35°	2867	2875	2942	3010	3008	1780
45°	2306	2350	2388	2450	2392	1784
55°	1724	1713	1758	1746	1745	1534
65°	1059	1045	1086	1045	1052	1053
75°	441	432	440	409	423	472
85°	54	52	54	52	50	78
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3874.9	3874.9	3874.9	3874.9	3874.9
2.5°	3908.4	3878.9	3851.4	3883.4	3902.9
5°	3847.4	3838.4	3848.9	3837.4	3929.9
7.5°	3768.3	3802.9	3822.9	3810.4	3815.9
10°	3726.3	3714.3	3758.8	3789.8	3785.3
12.5°	3681.3	3699.3	3701.8	3735.3	3738.3
15°	3683.8	3641.3	3663.8	3682.8	3684.3
17.5°	3540.7	3586.7	3602.2	3645.8	3591.7
20°	3523.2	3489.7	3523.2	3567.7	3560.7
22.5°	3415.6	3378.1	3450.1	3489.7	3487.2
25°	3293.5	3311.6	3365.6	3409.6	3402.6
27.5°	3186.5	3207.5	3284.5	3345.1	3306.0
30°	3103.9	3093.4	3158.5	3212.5	3242.5
32.5°	2956.3	2994.4	3070.4	3123.9	3095.4
35°	2866.8	2875.3	2941.8	3009.9	3007.9
37.5°	2710.2	2749.7	2843.3	2862.3	2844.8
40°	2576.6	2616.1	2700.7	2721.2	2712.7
42.5°	2478.0	2485.0	2557.6	2581.1	2543.6
45°	2306.4	2349.5	2388.5	2450.0	2392.0
47.5°	2160.3	2180.4	2264.4	2280.9	2250.4
50°	2027.8	2034.8	2119.3	2098.8	2078.8
52.5°	1861.2	1890.7	1938.2	1934.2	1910.7
55°	1724.1	1712.6	1757.6	1745.6	1745.1
57.5°	1559.5	1579.5	1616.5	1597.5	1567.0
60°	1405.4	1405.9	1419.4	1397.9	1393.9
62.5°	1233.8	1239.8	1242.8	1216.3	1259.3
65°	1059.2	1045.1	1086.2	1044.6	1051.7
67.5°	898.6	905.6	901.6	875.5	885.5
70°	735.5	744.5	738.0	708.4	717.4
72.5°	586.4	575.4	582.4	545.3	562.3
75°	440.8	431.8	439.8	408.8	422.8
77.5°	300.2	307.2	302.2	285.7	295.2
80°	198.1	192.6	192.6	183.1	185.1
82.5°	115.6	110.1	108.6	105.6	110.1
85°	54.0	52.5	53.5	52.0	50.0
87.5°	19.5	20.0	20.0	19.0	18.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)