

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: P590756

Luminaire Tested: FSR-24-2-LD4-4HI-40-UNV-81-97-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590756
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-81-97-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8778.0 lumens
Efficiency: N/A
Efficacy: 101.6 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

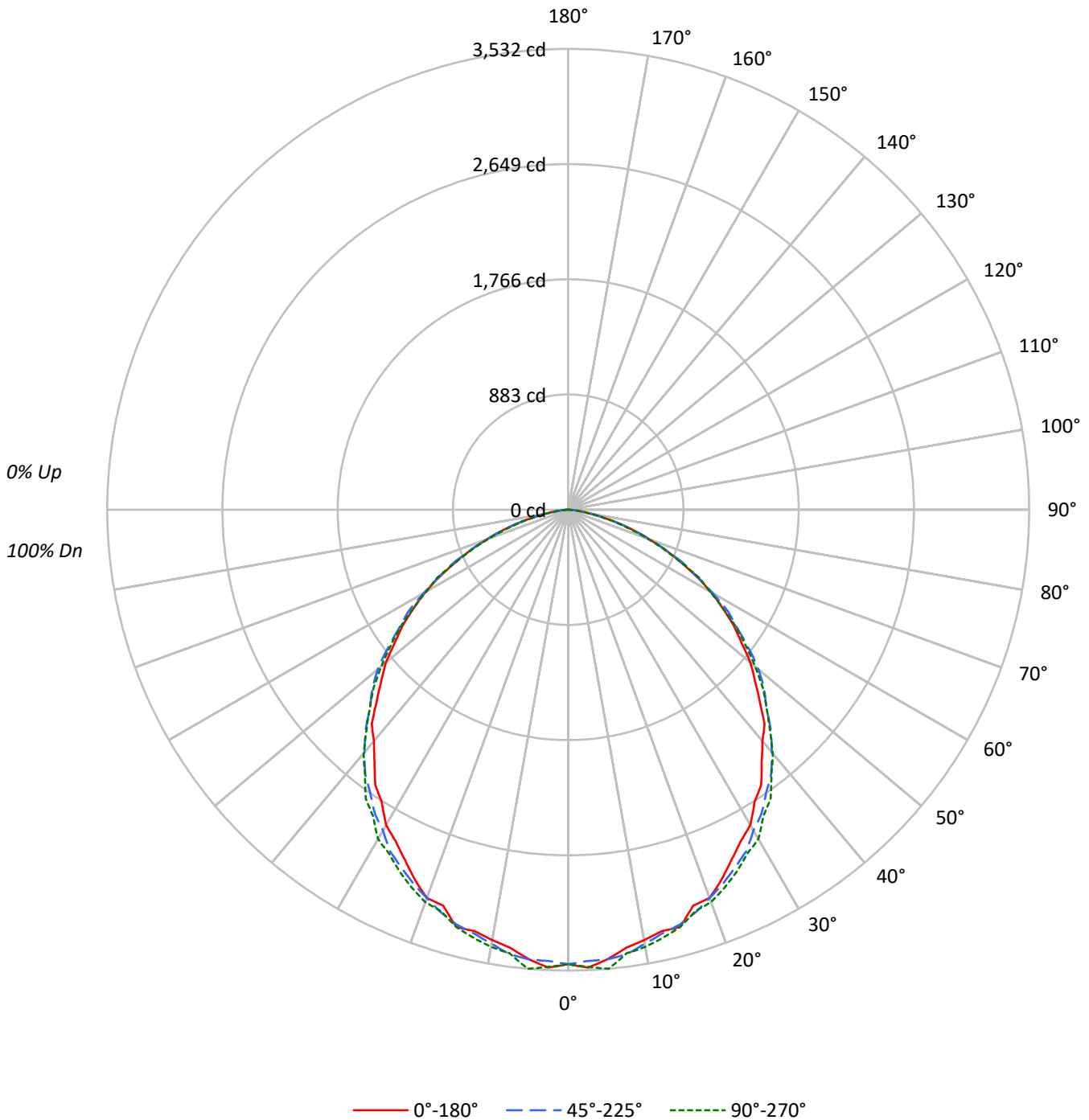
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	9372	9372	9372
5°	9341	9345	9542
10°	9152	9232	9297
15°	9224	9174	9226
20°	9069	9069	9165
25°	8790	8982	9081
30°	8669	8821	9056
35°	8465	8686	8882
40°	8135	8527	8565
45°	7889	8170	8182
50°	7630	7975	7822
55°	7270	7412	7359
60°	6798	6866	6743
65°	6062	6216	6019
70°	5201	5219	5074
75°	4119	4110	3951
80°	2760	2682	2579
85°	1501	1485	1389

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 8381 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	327.6	3.7
10°-20°	928.5	10.6
20°-30°	1391.1	15.8
30°-40°	1648.7	18.8
40°-50°	1651.8	18.8
50°-60°	1402.1	16.0
60°-70°	945.3	10.8
70°-80°	415.4	4.7
80°-90°	67.5	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°	2647.2	30.2
0°-40°	4296.0	48.9
0°-60°	7349.8	83.7
0°-90°	8778.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8778.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3483	3483	3483	3483	3483	
5°	3458	3450	3460	3449	3532	326
15°	3311	3273	3293	3310	3312	923
25°	2960	2976	3025	3065	3058	1369
35°	2577	2584	2644	2705	2704	1600
45°	2073	2112	2147	2202	2150	1604
55°	1550	1539	1580	1569	1568	1378
65°	952	939	976	939	945	947
75°	396	388	395	367	380	425
85°	49	47	48	47	45	70
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3482.9	3482.9	3482.9	3482.9	3482.9
2.5°	3513.0	3486.5	3461.8	3490.5	3508.1
5°	3458.2	3450.1	3459.5	3449.2	3532.4
7.5°	3387.1	3418.1	3436.1	3424.9	3429.8
10°	3349.3	3338.5	3378.6	3406.4	3402.4
12.5°	3308.9	3325.0	3327.3	3357.4	3360.1
15°	3311.1	3272.9	3293.1	3310.2	3311.6
17.5°	3182.5	3223.9	3237.8	3276.9	3228.4
20°	3166.8	3136.6	3166.8	3206.8	3200.5
22.5°	3070.1	3036.3	3101.1	3136.6	3134.4
25°	2960.3	2976.5	3025.1	3064.7	3058.4
27.5°	2864.1	2883.0	2952.2	3006.7	2971.6
30°	2789.9	2780.5	2838.9	2887.5	2914.5
32.5°	2657.2	2691.4	2759.8	2807.9	2782.3
35°	2576.8	2584.4	2644.2	2705.4	2703.6
37.5°	2436.0	2471.5	2555.6	2572.7	2557.0
40°	2315.9	2351.5	2427.5	2445.9	2438.2
42.5°	2227.3	2233.6	2298.8	2320.0	2286.2
45°	2073.1	2111.8	2146.8	2202.2	2150.0
47.5°	1941.8	1959.8	2035.3	2050.2	2022.7
50°	1822.6	1828.9	1904.9	1886.5	1868.5
52.5°	1672.9	1699.4	1742.1	1738.5	1717.4
55°	1549.6	1539.3	1579.8	1569.0	1568.5
57.5°	1401.7	1419.7	1453.0	1435.9	1408.4
60°	1263.2	1263.6	1275.8	1256.4	1252.9
62.5°	1108.9	1114.3	1117.0	1093.2	1131.9
65°	952.0	939.4	976.3	939.0	945.3
67.5°	807.7	813.9	810.4	787.0	796.0
70°	661.1	669.1	663.3	636.8	644.9
72.5°	527.0	517.1	523.4	490.2	505.5
75°	396.2	388.1	395.3	367.4	380.0
77.5°	269.8	276.1	271.6	256.8	265.3
80°	178.1	173.1	173.1	164.6	166.4
82.5°	103.9	98.9	97.6	94.9	98.9
85°	48.6	47.2	48.1	46.8	45.0
87.5°	17.5	18.0	18.0	17.1	16.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)