

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: P590766

Luminaire Tested: FSR-24-2-LD4-4HI-40-UNV-93-85-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590766
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-93-85-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9496.0 lumens
Efficiency: N/A
Efficacy: 109.9 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

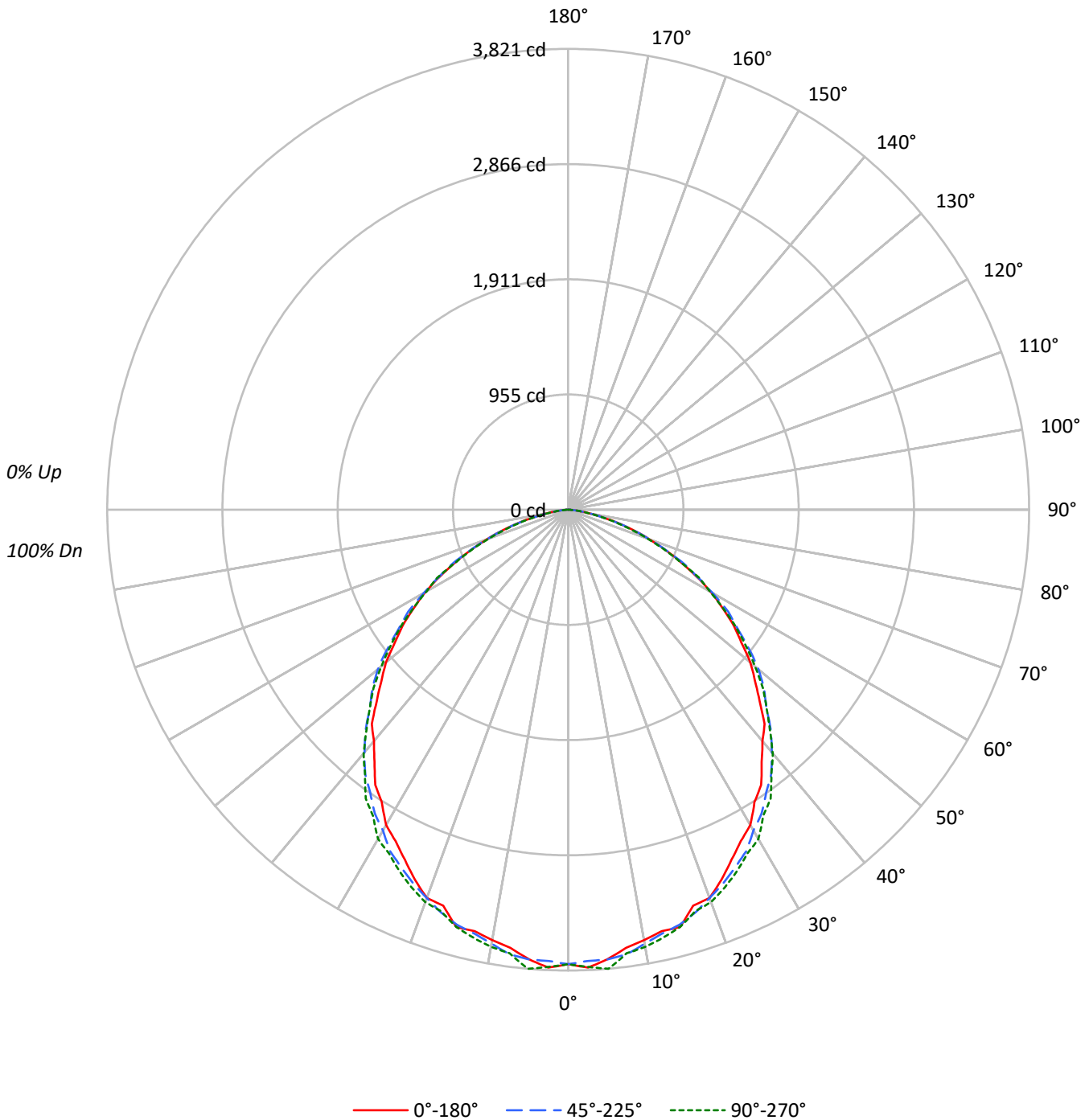
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	10139	10139	10139
5°	10105	10109	10322
10°	9901	9987	10057
15°	9979	9925	9980
20°	9810	9810	9915
25°	9509	9717	9823
30°	9378	9543	9797
35°	9157	9397	9608
40°	8801	9225	9266
45°	8535	8838	8851
50°	8254	8627	8462
55°	7865	8018	7961
60°	7354	7428	7294
65°	6558	6725	6511
70°	5626	5646	5489
75°	4456	4446	4274
80°	2985	2903	2789
85°	1621	1609	1501

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 9066 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	354.4	3.7
10°-20°	1004.5	10.6
20°-30°	1504.9	15.8
30°-40°	1783.6	18.8
40°-50°	1786.9	18.8
50°-60°	1516.8	16.0
60°-70°	1022.6	10.8
70°-80°	449.3	4.7
80°-90°	73.0	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°	2863.8	30.2
0°-40°	4647.4	48.9
0°-60°	7951.0	83.7
0°-90°	9496.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9496.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3768	3768	3768	3768	3768	
5°	3741	3732	3742	3731	3821	353
15°	3582	3541	3562	3581	3582	998
25°	3202	3220	3272	3315	3308	1481
35°	2788	2796	2860	2927	2925	1731
45°	2243	2284	2322	2382	2326	1735
55°	1676	1665	1709	1697	1697	1491
65°	1030	1016	1056	1016	1023	1024
75°	429	420	428	398	411	459
85°	52	51	52	51	49	76
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3767.8	3767.8	3767.8	3767.8	3767.8
2.5°	3800.4	3771.7	3744.9	3776.0	3795.0
5°	3741.0	3732.3	3742.5	3731.3	3821.3
7.5°	3664.2	3697.7	3717.2	3705.0	3710.4
10°	3623.3	3611.6	3654.9	3685.1	3680.7
12.5°	3579.5	3597.0	3599.5	3632.0	3635.0
15°	3581.9	3540.6	3562.5	3581.0	3582.4
17.5°	3442.8	3487.6	3502.6	3545.0	3492.4
20°	3425.8	3393.2	3425.8	3469.1	3462.3
22.5°	3321.2	3284.7	3354.8	3393.2	3390.8
25°	3202.5	3220.0	3272.5	3315.3	3308.5
27.5°	3098.4	3118.8	3193.7	3252.6	3214.6
30°	3018.1	3007.9	3071.1	3123.7	3152.9
32.5°	2874.6	2911.6	2985.5	3037.6	3009.8
35°	2787.5	2795.8	2860.5	2926.7	2924.7
37.5°	2635.3	2673.7	2764.7	2783.1	2766.1
40°	2505.4	2543.8	2626.0	2646.0	2637.7
42.5°	2409.5	2416.3	2486.9	2509.7	2473.3
45°	2242.7	2284.5	2322.4	2382.3	2325.9
47.5°	2100.6	2120.1	2201.8	2217.9	2188.2
50°	1971.7	1978.5	2060.7	2040.8	2021.3
52.5°	1809.7	1838.4	1884.6	1880.7	1857.9
55°	1676.4	1665.2	1709.0	1697.3	1696.8
57.5°	1516.4	1535.8	1571.8	1553.3	1523.6
60°	1366.5	1367.0	1380.1	1359.2	1355.3
62.5°	1199.7	1205.5	1208.4	1182.6	1224.5
65°	1029.9	1016.3	1056.1	1015.8	1022.6
67.5°	873.7	880.5	876.6	851.3	861.1
70°	715.1	723.9	717.6	688.9	697.6
72.5°	570.2	559.4	566.3	530.3	546.8
75°	428.6	419.8	427.6	397.5	411.1
77.5°	291.9	298.7	293.8	277.8	287.0
80°	192.6	187.3	187.3	178.1	180.0
82.5°	112.4	107.0	105.6	102.6	107.0
85°	52.5	51.1	52.1	50.6	48.6
87.5°	19.0	19.5	19.5	18.5	17.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)