

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: P561386

Luminaire Tested: FSR-12-4-LD4-2HI-35-UNV-93-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561386
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-12-4-LD4-2HI-35-UNV-93-94-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6847.0 lumens
Efficiency: N/A
Efficacy: 79.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

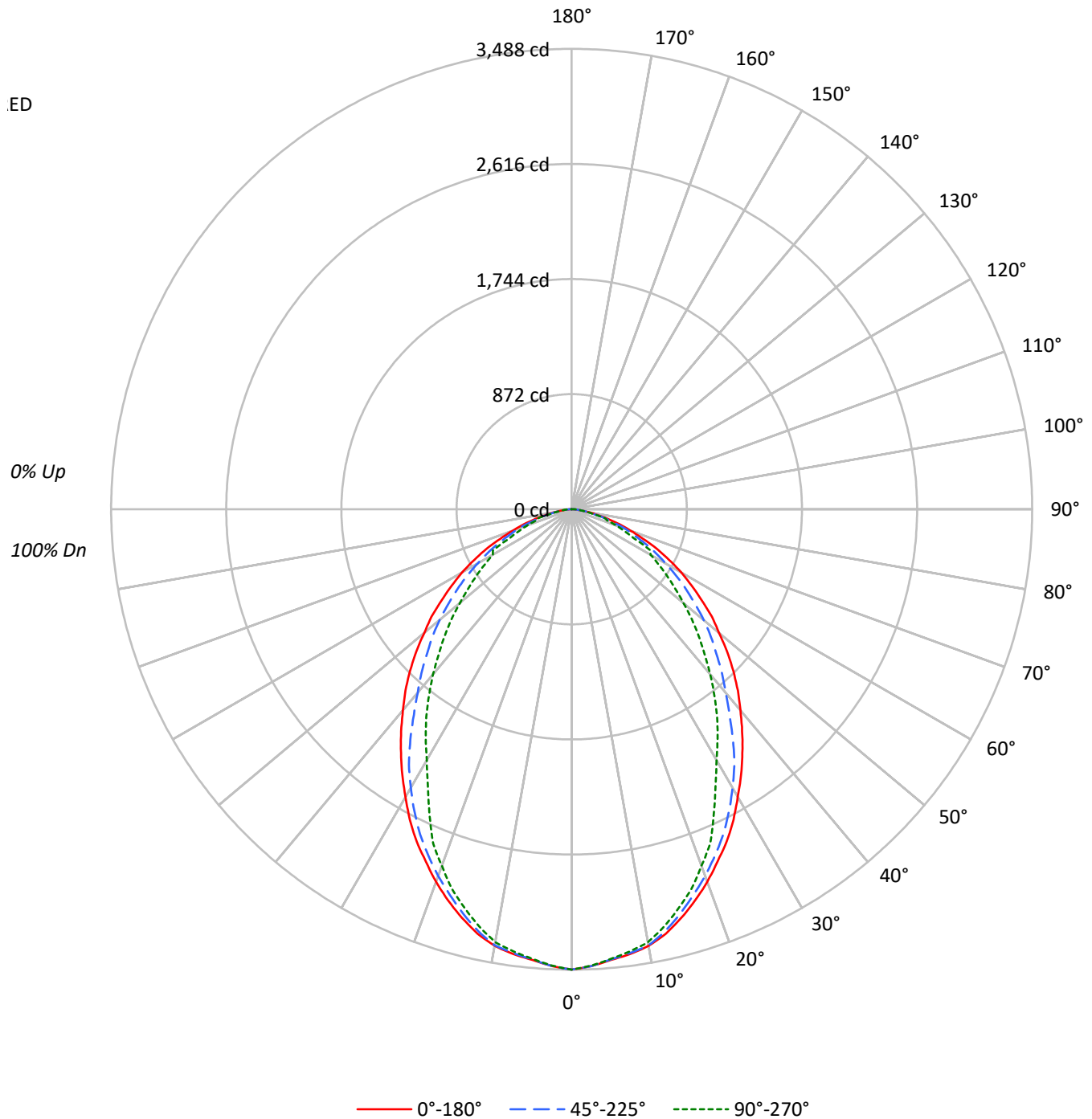
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	9386	9386	9386
5°	9258	9247	9236
10°	9178	9167	9101
15°	8930	8841	8717
20°	8602	8464	8233
25°	8249	8069	7566
30°	7818	7567	6816
35°	7404	6994	6305
40°	6983	6374	5736
45°	6583	5892	5187
50°	6094	5469	4625
55°	5637	4956	4143
60°	5165	4427	3711
65°	4544	3876	3286
70°	3744	3394	2792
75°	2977	2599	2725
80°	1999	1875	1750
85°	1244	1494	1741

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6583 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	324.7	4.7
10°-20°	891.0	13.0
20°-30°	1233.5	18.0
30°-40°	1315.3	19.2
40°-50°	1200.0	17.5
50°-60°	940.1	13.7
60°-70°	612.7	8.9
70°-80°	271.4	4.0
80°-90°	58.3	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°	2449.2	35.8
0°-40°	3764.5	55.0
0°-60°	5904.6	86.2
0°-90°	6847.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6847.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3488	3488	3488	3488	3488	
5°	3427	3423	3423	3419	3419	325
15°	3206	3206	3173	3141	3129	901
25°	2778	2762	2718	2621	2548	1275
35°	2254	2238	2129	1968	1919	1409
45°	1730	1694	1548	1419	1363	1332
55°	1202	1165	1056	931	883	1078
65°	714	673	609	621	516	703
75°	286	266	250	238	262	307
85°	40	44	48	52	56	56
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3487.8	3487.8	3487.8	3487.8	3487.8
2.5°	3463.6	3463.6	3463.6	3459.5	3459.5
5°	3427.3	3423.3	3423.3	3419.2	3419.2
7.5°	3399.1	3395.0	3391.0	3387.0	3378.9
10°	3358.7	3358.7	3354.7	3334.6	3330.5
12.5°	3294.2	3290.2	3274.1	3245.8	3237.8
15°	3205.5	3205.5	3173.3	3141.0	3128.9
17.5°	3108.8	3104.7	3064.4	3032.1	3016.0
20°	3003.9	2995.9	2955.5	2903.1	2874.9
22.5°	2887.0	2887.0	2838.6	2770.1	2741.8
25°	2778.1	2762.0	2717.6	2620.9	2548.3
27.5°	2653.1	2628.9	2580.5	2443.5	2358.8
30°	2516.0	2503.9	2435.4	2258.0	2193.5
32.5°	2387.0	2366.8	2294.3	2108.8	2056.4
35°	2253.9	2237.8	2129.0	1967.7	1919.3
37.5°	2120.9	2100.7	1963.6	1834.6	1774.1
40°	1987.8	1963.6	1814.4	1697.5	1633.0
42.5°	1862.8	1830.6	1685.4	1560.4	1487.8
45°	1729.8	1693.5	1548.3	1419.3	1362.9
47.5°	1596.7	1564.5	1431.4	1298.3	1233.8
50°	1455.6	1427.4	1306.4	1173.3	1104.8
52.5°	1338.7	1294.3	1177.4	1044.3	987.9
55°	1201.6	1165.3	1056.4	931.4	883.0
57.5°	1076.6	1040.3	939.5	822.5	782.2
60°	959.6	907.2	822.5	721.7	689.5
62.5°	830.6	790.3	717.7	633.0	673.4
65°	713.7	673.4	608.8	620.9	516.1
67.5°	584.7	564.5	508.0	451.6	435.5
70°	475.8	451.6	431.4	371.0	354.8
72.5°	379.0	354.8	326.6	294.3	282.2
75°	286.3	266.1	250.0	237.9	262.1
77.5°	197.6	189.5	177.4	165.3	161.3
80°	129.0	125.0	121.0	116.9	112.9
82.5°	76.6	76.6	76.6	76.6	76.6
85°	40.3	44.4	48.4	52.4	56.4
87.5°	24.2	24.2	28.2	32.3	36.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)