

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: P561771

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

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561771
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-LD4-2STD-35-UNV-93-94-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6672.0 lumens
Efficiency: N/A
Efficacy: 100.2 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

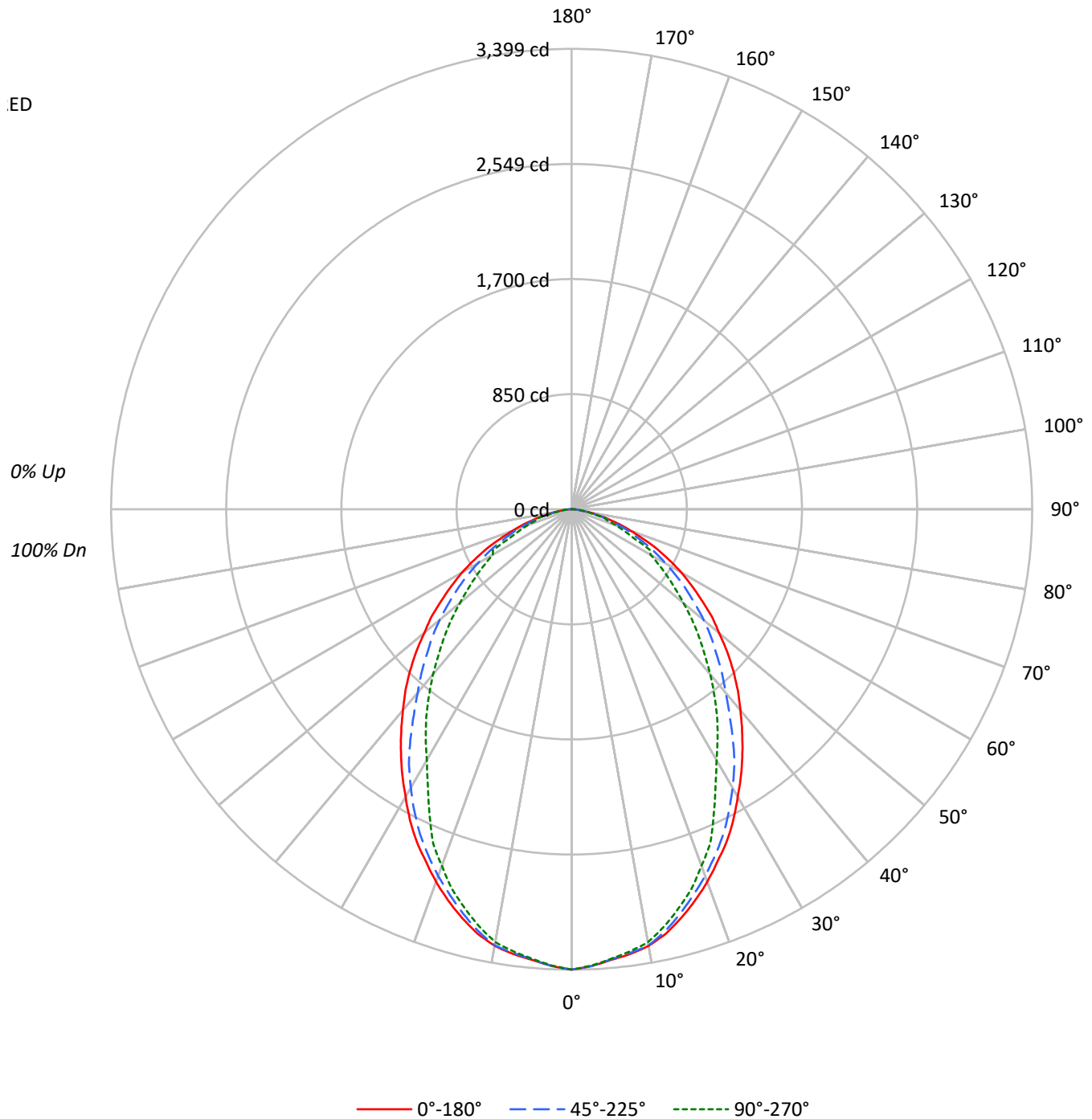
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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													100															
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87													87															
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75													75															
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65													65															
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56													56															
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50													50															
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44													44															
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40													40															
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36													36															
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33													33															
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30													30															

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9146	9146	9146
5°	9021	9011	9000
10°	8943	8933	8868
15°	8702	8615	8494
20°	8382	8247	8022
25°	8038	7863	7373
30°	7618	7374	6641
35°	7215	6815	6144
40°	6804	6211	5590
45°	6415	5742	5054
50°	5938	5329	4507
55°	5493	4830	4037
60°	5033	4314	3616
65°	4428	3778	3202
70°	3648	3308	2721
75°	2901	2533	2655
80°	1948	1827	1705
85°	1213	1454	1698

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6415 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	316.4	4.7
10°-20°	868.2	13.0
20°-30°	1202.0	18.0
30°-40°	1281.7	19.2
40°-50°	1169.3	17.5
50°-60°	916.0	13.7
60°-70°	597.0	8.9
70°-80°	264.5	4.0
80°-90°	56.8	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°	2386.6	35.8
0°-40°	3668.3	55.0
0°-60°	5753.7	86.2
0°-90°	6672.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6672.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3399	3399	3399	3399	3399	
5°	3340	3336	3336	3332	3332	317
15°	3124	3124	3092	3061	3049	878
25°	2707	2691	2648	2554	2483	1243
35°	2196	2181	2074	1917	1870	1373
45°	1686	1650	1509	1383	1328	1298
55°	1171	1136	1029	908	860	1050
65°	695	656	593	605	503	685
75°	279	259	244	232	255	299
85°	39	43	47	51	55	55
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3398.6	3398.6	3398.6	3398.6	3398.6
2.5°	3375.1	3375.1	3375.1	3371.1	3371.1
5°	3339.7	3335.8	3335.8	3331.8	3331.8
7.5°	3312.2	3308.3	3304.3	3300.4	3292.5
10°	3272.9	3272.9	3269.0	3249.3	3245.4
12.5°	3210.0	3206.1	3190.4	3162.9	3155.0
15°	3123.6	3123.6	3092.2	3060.7	3048.9
17.5°	3029.3	3025.4	2986.1	2954.6	2938.9
20°	2927.1	2919.3	2880.0	2828.9	2801.4
22.5°	2813.2	2813.2	2766.1	2699.3	2671.8
25°	2707.1	2691.4	2648.2	2553.9	2483.2
27.5°	2585.3	2561.7	2514.6	2381.0	2298.5
30°	2451.7	2439.9	2373.1	2200.3	2137.4
32.5°	2326.0	2306.4	2235.6	2054.9	2003.8
35°	2196.3	2180.6	2074.5	1917.4	1870.2
37.5°	2066.7	2047.0	1913.4	1787.7	1728.8
40°	1937.0	1913.4	1768.1	1654.1	1591.3
42.5°	1815.2	1783.8	1642.3	1520.5	1449.8
45°	1685.6	1650.2	1508.8	1383.0	1328.0
47.5°	1555.9	1524.5	1394.8	1265.2	1202.3
50°	1418.4	1390.9	1273.0	1143.4	1076.6
52.5°	1304.4	1261.2	1147.3	1017.6	962.6
55°	1170.9	1135.5	1029.4	907.6	860.5
57.5°	1049.1	1013.7	915.5	801.5	762.2
60°	935.1	884.0	801.5	703.3	671.9
62.5°	809.4	770.1	699.4	616.9	656.2
65°	695.4	656.2	593.3	605.1	502.9
67.5°	569.7	550.1	495.1	440.1	424.3
70°	463.6	440.1	420.4	361.5	345.8
72.5°	369.3	345.8	318.3	286.8	275.0
75°	279.0	259.3	243.6	231.8	255.4
77.5°	192.5	184.7	172.9	161.1	157.2
80°	125.7	121.8	117.9	113.9	110.0
82.5°	74.7	74.7	74.7	74.7	74.7
85°	39.3	43.2	47.1	51.1	55.0
87.5°	23.6	23.6	27.5	31.4	35.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)