

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: P561835

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-93-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561835
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-40-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6738.0 lumens
Efficiency: N/A
Efficacy: 101.2 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

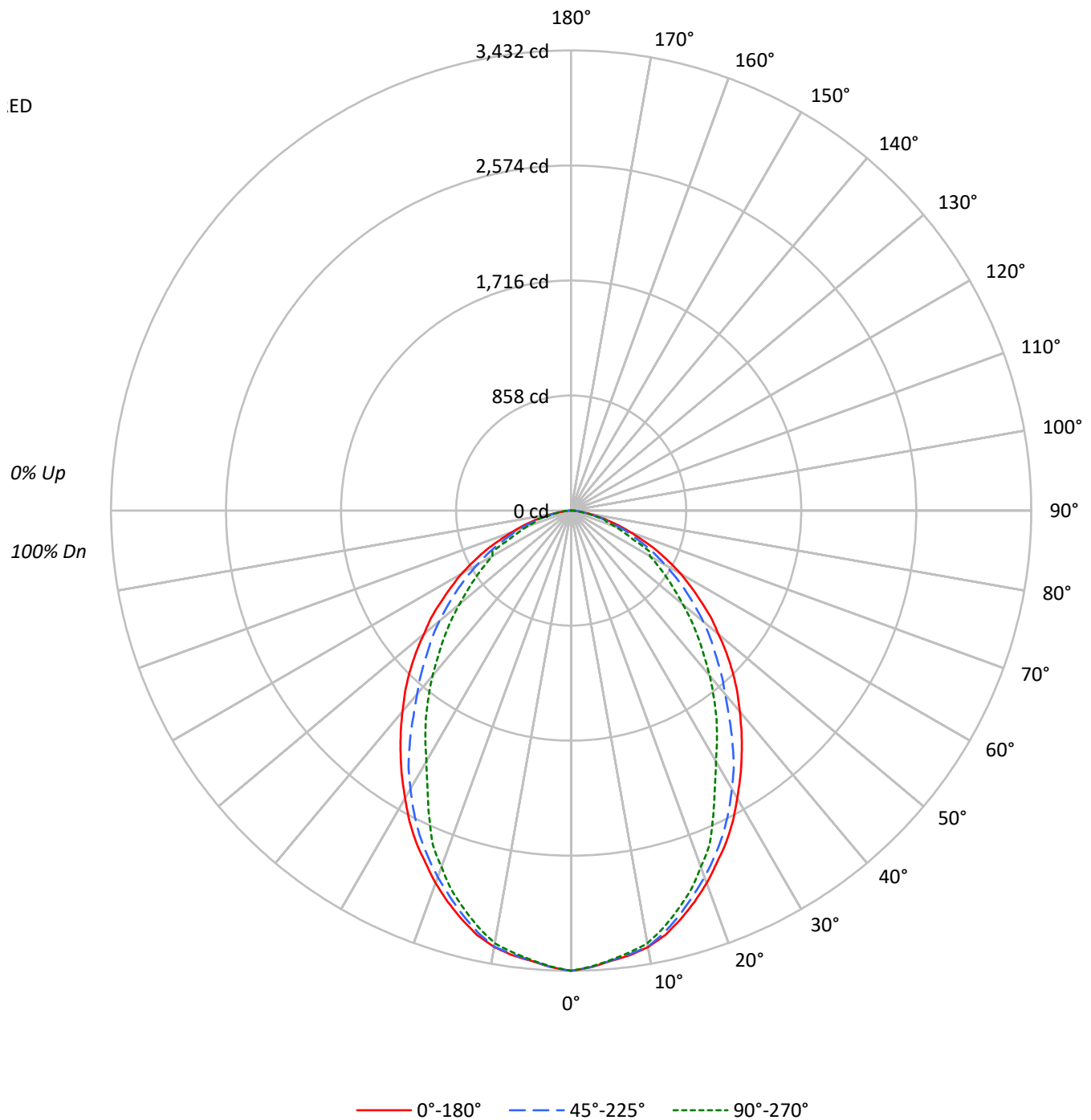
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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																												
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°	9236	9236	9236
5°	9111	9100	9089
10°	9032	9021	8956
15°	8788	8700	8578
20°	8465	8329	8102
25°	8117	7941	7446
30°	7694	7447	6707
35°	7287	6883	6205
40°	6872	6272	5645
45°	6478	5799	5104
50°	5997	5382	4551
55°	5547	4877	4077
60°	5083	4357	3652
65°	4472	3815	3234
70°	3684	3341	2747
75°	2929	2558	2681
80°	1968	1844	1722
85°	1226	1470	1717

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6478 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	319.5	4.7
10°-20°	876.8	13.0
20°-30°	1213.9	18.0
30°-40°	1294.4	19.2
40°-50°	1180.9	17.5
50°-60°	925.1	13.7
60°-70°	602.9	8.9
70°-80°	267.1	4.0
80°-90°	57.4	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°	2410.2	35.8
0°-40°	3704.6	55.0
0°-60°	5810.6	86.2
0°-90°	6738.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6738.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3432	3432	3432	3432	3432	
5°	3373	3369	3369	3365	3365	320
15°	3154	3154	3123	3091	3079	887
25°	2734	2718	2674	2579	2508	1255
35°	2218	2202	2095	1936	1889	1387
45°	1702	1666	1524	1397	1341	1311
55°	1182	1147	1040	917	869	1061
65°	702	663	599	611	508	692
75°	282	262	246	234	258	302
85°	40	44	48	52	56	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3432.2	3432.2	3432.2	3432.2	3432.2
2.5°	3408.4	3408.4	3408.4	3404.5	3404.5
5°	3372.7	3368.8	3368.8	3364.8	3364.8
7.5°	3345.0	3341.0	3337.0	3333.0	3325.1
10°	3305.3	3305.3	3301.3	3281.5	3277.5
12.5°	3241.8	3237.8	3221.9	3194.2	3186.2
15°	3154.5	3154.5	3122.7	3091.0	3079.1
17.5°	3059.3	3055.3	3015.6	2983.9	2968.0
20°	2956.1	2948.2	2908.5	2856.9	2829.1
22.5°	2841.0	2841.0	2793.4	2726.0	2698.2
25°	2733.9	2718.0	2674.4	2579.1	2507.7
27.5°	2610.9	2587.1	2539.5	2404.6	2321.2
30°	2476.0	2464.1	2396.6	2222.0	2158.5
32.5°	2349.0	2329.2	2257.7	2075.2	2023.6
35°	2218.1	2202.2	2095.1	1936.3	1888.7
37.5°	2087.1	2067.3	1932.4	1805.4	1745.9
40°	1956.2	1932.4	1785.6	1670.5	1607.0
42.5°	1833.2	1801.4	1658.6	1535.6	1464.2
45°	1702.2	1666.5	1523.7	1396.7	1341.2
47.5°	1571.3	1539.6	1408.6	1277.7	1214.2
50°	1432.4	1404.6	1285.6	1154.7	1087.2
52.5°	1317.3	1273.7	1158.6	1027.7	972.1
55°	1182.4	1146.7	1039.6	916.6	869.0
57.5°	1059.4	1023.7	924.5	809.5	769.8
60°	944.4	892.8	809.5	710.3	678.5
62.5°	817.4	777.7	706.3	623.0	662.6
65°	702.3	662.6	599.2	611.1	507.9
67.5°	575.3	555.5	500.0	444.4	428.5
70°	468.2	444.4	424.6	365.0	349.2
72.5°	373.0	349.2	321.4	289.7	277.8
75°	281.7	261.9	246.0	234.1	257.9
77.5°	194.4	186.5	174.6	162.7	158.7
80°	127.0	123.0	119.0	115.1	111.1
82.5°	75.4	75.4	75.4	75.4	75.4
85°	39.7	43.6	47.6	51.6	55.6
87.5°	23.8	23.8	27.8	31.7	35.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)