

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: P561773

Luminaire Tested: FSR-12-4-LD4-2STD-35-UNV-93-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561773
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-93-96-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 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: 6598.0 lumens
Efficiency: N/A
Efficacy: 99.1 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

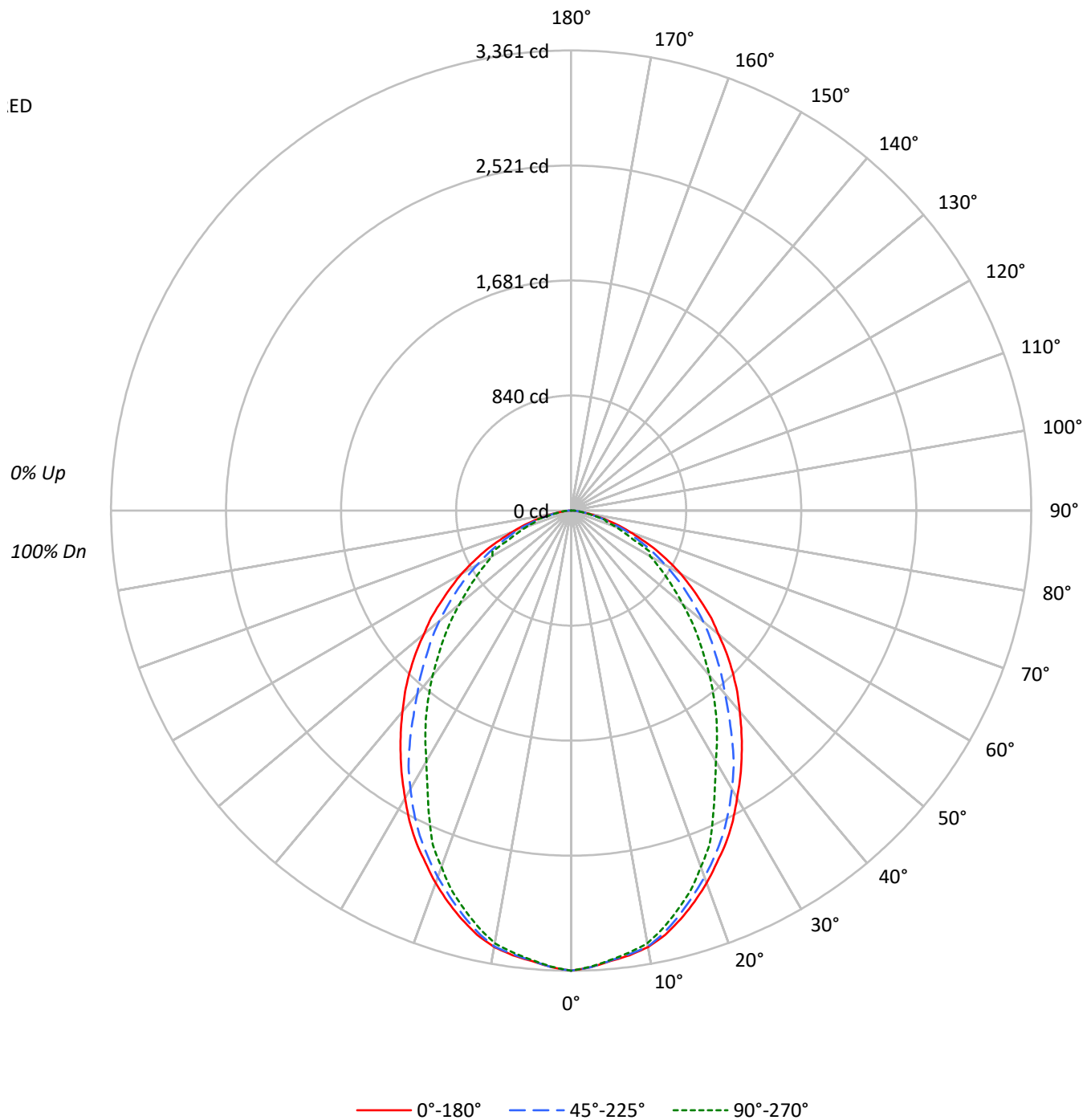
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	9044	9044	9044
5°	8921	8911	8900
10°	8844	8833	8770
15°	8606	8519	8400
20°	8289	8156	7933
25°	7949	7776	7291
30°	7534	7292	6568
35°	7135	6739	6076
40°	6729	6142	5528
45°	6344	5678	4998
50°	5872	5270	4457
55°	5432	4776	3992
60°	4977	4266	3576
65°	4379	3736	3167
70°	3607	3271	2690
75°	2869	2505	2626
80°	1926	1807	1686
85°	1201	1439	1680

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6344 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	312.9	4.7
10°-20°	858.6	13.0
20°-30°	1188.7	18.0
30°-40°	1267.5	19.2
40°-50°	1156.3	17.5
50°-60°	905.9	13.7
60°-70°	590.4	8.9
70°-80°	261.6	4.0
80°-90°	56.2	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°	2360.2	35.8
0°-40°	3627.6	55.0
0°-60°	5689.8	86.2
0°-90°	6598.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6598.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3361	3361	3361	3361	3361	
5°	3303	3299	3299	3295	3295	314
15°	3089	3089	3058	3027	3015	868
25°	2677	2662	2619	2526	2456	1229
35°	2172	2156	2052	1896	1850	1358
45°	1667	1632	1492	1368	1313	1284
55°	1158	1123	1018	898	851	1039
65°	688	649	587	598	497	678
75°	276	256	241	229	253	296
85°	39	43	47	50	54	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3360.9	3360.9	3360.9	3360.9	3360.9
2.5°	3337.6	3337.6	3337.6	3333.7	3333.7
5°	3302.7	3298.8	3298.8	3294.9	3294.9
7.5°	3275.5	3271.6	3267.7	3263.8	3256.0
10°	3236.6	3236.6	3232.7	3213.3	3209.4
12.5°	3174.4	3170.5	3155.0	3127.8	3120.0
15°	3089.0	3089.0	3057.9	3026.8	3015.1
17.5°	2995.7	2991.8	2953.0	2921.9	2906.3
20°	2894.7	2886.9	2848.1	2797.5	2770.3
22.5°	2782.0	2782.0	2735.4	2669.3	2642.1
25°	2677.1	2661.5	2618.8	2525.6	2455.6
27.5°	2556.6	2533.3	2486.7	2354.6	2273.0
30°	2424.5	2412.9	2346.8	2175.9	2113.7
32.5°	2300.2	2280.8	2210.8	2032.1	1981.6
35°	2172.0	2156.4	2051.5	1896.1	1849.5
37.5°	2043.8	2024.3	1892.2	1767.9	1709.6
40°	1915.5	1892.2	1748.5	1635.8	1573.6
42.5°	1795.1	1764.0	1624.1	1503.7	1433.7
45°	1666.9	1631.9	1492.0	1367.7	1313.3
47.5°	1538.6	1507.6	1379.3	1251.1	1189.0
50°	1402.7	1375.5	1258.9	1130.7	1064.6
52.5°	1290.0	1247.2	1134.6	1006.3	951.9
55°	1157.9	1122.9	1018.0	897.5	850.9
57.5°	1037.4	1002.5	905.3	792.6	753.8
60°	924.7	874.2	792.6	695.5	664.4
62.5°	800.4	761.6	691.6	610.0	648.9
65°	687.7	648.9	586.7	598.4	497.3
67.5°	563.4	544.0	489.6	435.2	419.6
70°	458.5	435.2	415.7	357.5	341.9
72.5°	365.2	341.9	314.7	283.6	272.0
75°	275.9	256.4	240.9	229.2	252.6
77.5°	190.4	182.6	171.0	159.3	155.4
80°	124.3	120.4	116.6	112.7	108.8
82.5°	73.8	73.8	73.8	73.8	73.8
85°	38.9	42.7	46.6	50.5	54.4
87.5°	23.3	23.3	27.2	31.1	35.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)