

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: P561759

Luminaire Tested: FSR-12-4-LD4-2STD-35-UNV-82-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561759
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-82-97-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6031.0 lumens
Efficiency: N/A
Efficacy: 90.6 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

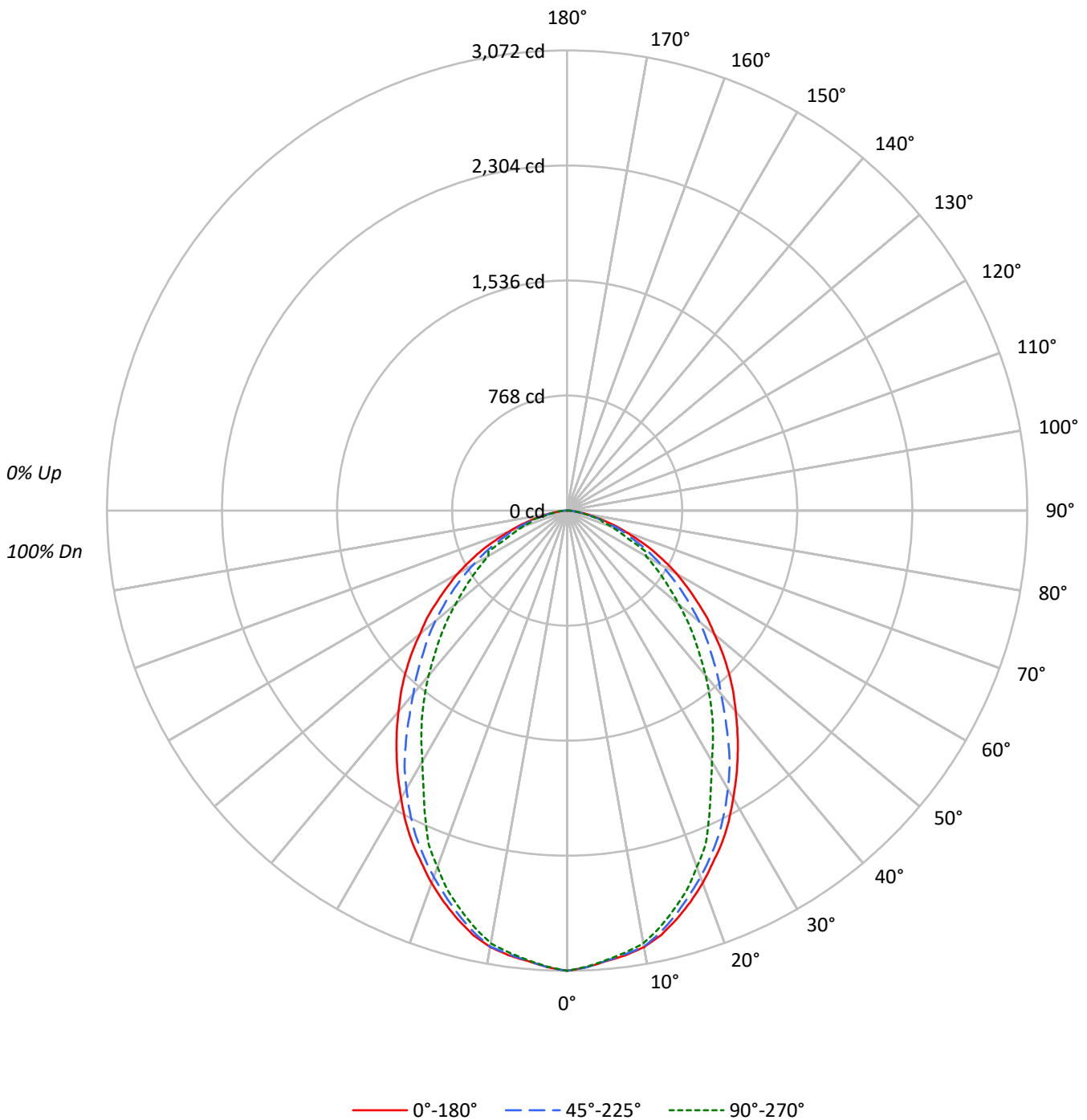
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8267	8267	8267
5°	8155	8145	8135
10°	8084	8074	8016
15°	7866	7787	7678
20°	7577	7455	7252
25°	7266	7108	6665
30°	6886	6666	6004
35°	6522	6160	5553
40°	6151	5614	5053
45°	5798	5190	4568
50°	5367	4817	4074
55°	4966	4366	3649
60°	4549	3899	3268
65°	4003	3415	2895
70°	3297	2990	2459
75°	2622	2289	2401
80°	1762	1650	1540
85°	1096	1315	1535

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5798 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	286.0	4.7
10°-20°	784.8	13.0
20°-30°	1086.5	18.0
30°-40°	1158.6	19.2
40°-50°	1057.0	17.5
50°-60°	828.0	13.7
60°-70°	539.7	8.9
70°-80°	239.1	4.0
80°-90°	51.3	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°	2157.3	35.8
0°-40°	3315.9	55.0
0°-60°	5200.9	86.2
0°-90°	6031.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6031.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3072	3072	3072	3072	3072	
5°	3019	3015	3015	3012	3012	287
15°	2824	2824	2795	2767	2756	794
25°	2447	2433	2394	2308	2245	1123
35°	1985	1971	1875	1733	1690	1241
45°	1524	1492	1364	1250	1200	1174
55°	1058	1026	930	820	778	949
65°	629	593	536	547	455	620
75°	252	234	220	210	231	270
85°	36	39	43	46	50	49
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3072.1	3072.1	3072.1	3072.1	3072.1
2.5°	3050.8	3050.8	3050.8	3047.2	3047.2
5°	3018.8	3015.3	3015.3	3011.7	3011.7
7.5°	2994.0	2990.4	2986.9	2983.3	2976.2
10°	2958.5	2958.5	2954.9	2937.2	2933.6
12.5°	2901.6	2898.1	2883.9	2859.0	2851.9
15°	2823.5	2823.5	2795.1	2766.7	2756.0
17.5°	2738.3	2734.7	2699.2	2670.8	2656.6
20°	2645.9	2638.8	2603.3	2557.1	2532.3
22.5°	2542.9	2542.9	2500.3	2439.9	2415.1
25°	2447.0	2432.8	2393.8	2308.5	2244.6
27.5°	2336.9	2315.6	2273.0	2152.3	2077.7
30°	2216.2	2205.5	2145.2	1988.9	1932.1
32.5°	2102.5	2084.8	2020.8	1857.5	1811.3
35°	1985.3	1971.1	1875.2	1733.2	1690.5
37.5°	1868.1	1850.4	1729.6	1616.0	1562.7
40°	1750.9	1729.6	1598.2	1495.2	1438.4
42.5°	1640.8	1612.4	1484.6	1374.5	1310.5
45°	1523.6	1491.7	1363.8	1250.2	1200.4
47.5°	1406.4	1378.0	1260.8	1143.6	1086.8
50°	1282.1	1257.3	1150.7	1033.5	973.1
52.5°	1179.1	1140.1	1037.1	919.9	870.1
55°	1058.4	1026.4	930.5	820.4	777.8
57.5°	948.3	916.3	827.5	724.5	689.0
60°	845.3	799.1	724.5	635.7	607.3
62.5°	731.6	696.1	632.2	557.6	593.1
65°	628.6	593.1	536.3	546.9	454.6
67.5°	515.0	497.2	447.5	397.8	383.6
70°	419.1	397.8	380.0	326.7	312.5
72.5°	333.8	312.5	287.7	259.3	248.6
75°	252.2	234.4	220.2	209.5	230.9
77.5°	174.0	166.9	156.3	145.6	142.1
80°	113.7	110.1	106.5	103.0	99.4
82.5°	67.5	67.5	67.5	67.5	67.5
85°	35.5	39.1	42.6	46.2	49.7
87.5°	21.3	21.3	24.9	28.4	32.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)