

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: P561831

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-93-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561831
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-93-87-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6303.0 lumens
Efficiency: N/A
Efficacy: 94.6 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

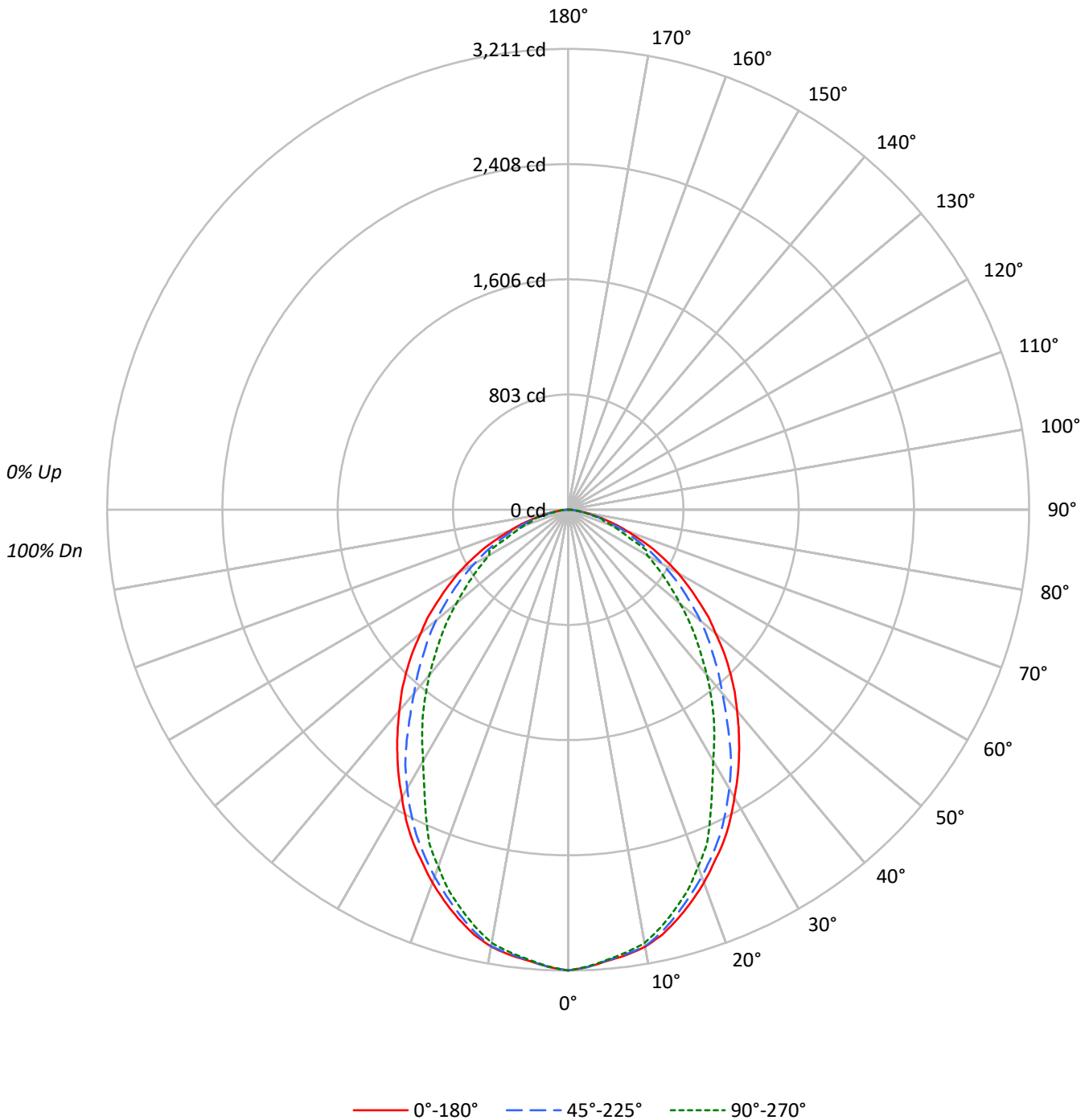
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	8640	8640	8640
5°	8522	8512	8502
10°	8449	8438	8378
15°	8221	8138	8024
20°	7919	7791	7579
25°	7593	7428	6965
30°	7197	6966	6274
35°	6816	6438	5804
40°	6428	5867	5281
45°	6060	5424	4775
50°	5609	5035	4258
55°	5189	4563	3814
60°	4754	4075	3416
65°	4183	3569	3025
70°	3446	3125	2570
75°	2740	2392	2509
80°	1841	1726	1610
85°	1145	1374	1606

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6060 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	298.9	4.7
10°-20°	820.2	13.0
20°-30°	1135.5	18.0
30°-40°	1210.8	19.2
40°-50°	1104.6	17.5
50°-60°	865.4	13.7
60°-70°	564.0	8.9
70°-80°	249.9	4.0
80°-90°	53.6	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°	2254.6	35.8
0°-40°	3465.4	55.0
0°-60°	5435.4	86.2
0°-90°	6303.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6303.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3211	3211	3211	3211	3211	
5°	3155	3151	3151	3148	3148	299
15°	2951	2951	2921	2892	2880	830
25°	2557	2542	2502	2413	2346	1174
35°	2075	2060	1960	1811	1767	1297
45°	1592	1559	1425	1306	1255	1227
55°	1106	1073	972	857	813	992
65°	657	620	560	572	475	647
75°	264	245	230	219	241	282
85°	37	41	44	48	52	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3210.7	3210.7	3210.7	3210.7	3210.7
2.5°	3188.4	3188.4	3188.4	3184.7	3184.7
5°	3155.0	3151.3	3151.3	3147.6	3147.6
7.5°	3129.0	3125.3	3121.6	3117.9	3110.4
10°	3091.9	3091.9	3088.2	3069.6	3065.9
12.5°	3032.5	3028.8	3013.9	2988.0	2980.5
15°	2950.8	2950.8	2921.1	2891.5	2880.3
17.5°	2861.8	2858.0	2820.9	2791.2	2776.4
20°	2765.3	2757.8	2720.7	2672.5	2646.5
22.5°	2657.6	2657.6	2613.1	2550.0	2524.0
25°	2557.4	2542.5	2501.7	2412.6	2345.8
27.5°	2442.3	2420.1	2375.5	2249.3	2171.4
30°	2316.1	2305.0	2241.9	2078.6	2019.2
32.5°	2197.4	2178.8	2112.0	1941.2	1893.0
35°	2074.9	2060.0	1959.8	1811.3	1766.8
37.5°	1952.4	1933.8	1807.6	1688.8	1633.2
40°	1829.9	1807.6	1670.3	1562.6	1503.3
42.5°	1714.8	1685.1	1551.5	1436.4	1369.6
45°	1592.3	1558.9	1425.3	1306.5	1254.6
47.5°	1469.9	1440.2	1317.7	1195.2	1135.8
50°	1339.9	1314.0	1202.6	1080.1	1017.0
52.5°	1232.3	1191.5	1083.8	961.3	909.4
55°	1106.1	1072.7	972.5	857.4	812.9
57.5°	991.0	957.6	864.8	757.2	720.1
60°	883.4	835.1	757.2	664.4	634.7
62.5°	764.6	727.5	660.7	582.7	619.9
65°	657.0	619.9	560.5	571.6	475.1
67.5°	538.2	519.6	467.7	415.7	400.9
70°	438.0	415.7	397.2	341.5	326.6
72.5°	348.9	326.6	300.7	271.0	259.8
75°	263.5	245.0	230.1	219.0	241.3
77.5°	181.9	174.5	163.3	152.2	148.5
80°	118.8	115.1	111.4	107.6	103.9
82.5°	70.5	70.5	70.5	70.5	70.5
85°	37.1	40.8	44.5	48.3	52.0
87.5°	22.3	22.3	26.0	29.7	33.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)