

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: P561755

Luminaire Tested: FSR-12-4-LD4-2STD-35-UNV-82-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561755
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-82-94-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 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: 6192.0 lumens
Efficiency: N/A
Efficacy: 93.0 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

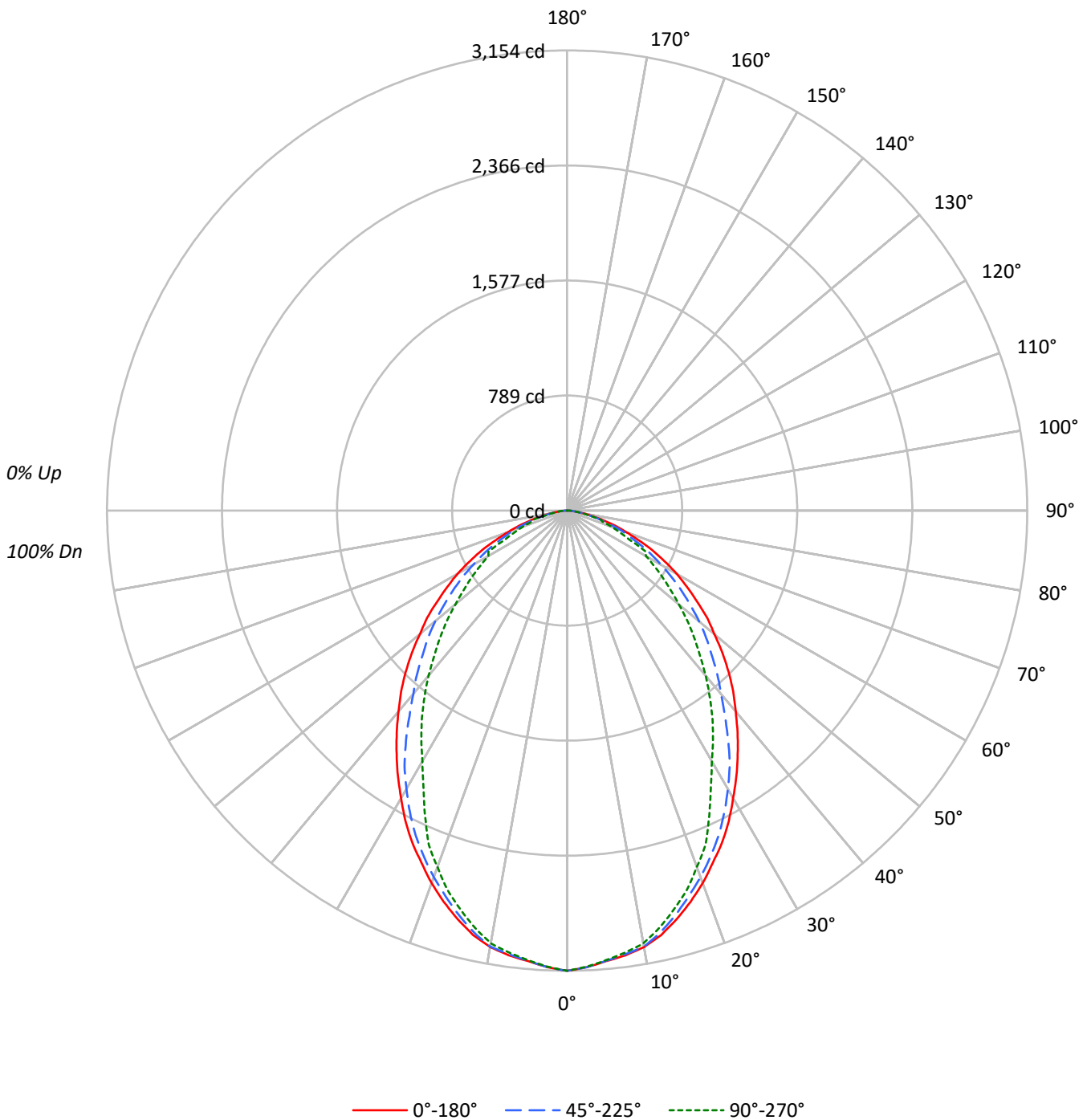
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8488	8488	8488
5°	8372	8363	8353
10°	8300	8290	8230
15°	8076	7995	7883
20°	7779	7654	7445
25°	7460	7297	6842
30°	7070	6843	6164
35°	6696	6325	5702
40°	6315	5764	5188
45°	5953	5329	4690
50°	5511	4946	4183
55°	5098	4482	3747
60°	4670	4004	3356
65°	4110	3506	2972
70°	3386	3070	2525
75°	2692	2351	2464
80°	1808	1695	1582
85°	1127	1352	1575

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5953 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	293.6	4.7
10°-20°	805.8	13.0
20°-30°	1115.5	18.0
30°-40°	1189.5	19.2
40°-50°	1085.2	17.5
50°-60°	850.1	13.7
60°-70°	554.1	8.9
70°-80°	245.5	4.0
80°-90°	52.7	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°	2214.9	35.8
0°-40°	3404.4	55.0
0°-60°	5339.7	86.2
0°-90°	6192.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6192.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3154	3154	3154	3154	3154	
5°	3099	3096	3096	3092	3092	294
15°	2899	2899	2870	2840	2830	815
25°	2512	2498	2458	2370	2304	1153
35°	2038	2024	1925	1779	1736	1274
45°	1564	1532	1400	1284	1232	1205
55°	1087	1054	955	842	799	975
65°	645	609	551	562	467	636
75°	259	241	226	215	237	277
85°	36	40	44	47	51	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3154.1	3154.1	3154.1	3154.1	3154.1
2.5°	3132.2	3132.2	3132.2	3128.6	3128.6
5°	3099.4	3095.8	3095.8	3092.1	3092.1
7.5°	3073.9	3070.3	3066.6	3063.0	3055.7
10°	3037.4	3037.4	3033.8	3015.6	3011.9
12.5°	2979.1	2975.4	2960.9	2935.3	2928.0
15°	2898.9	2898.9	2869.7	2840.5	2829.6
17.5°	2811.4	2807.7	2771.3	2742.1	2727.5
20°	2716.6	2709.3	2672.8	2625.4	2599.9
22.5°	2610.8	2610.8	2567.1	2505.1	2479.5
25°	2512.4	2497.8	2457.7	2370.1	2304.5
27.5°	2399.3	2377.4	2333.7	2209.7	2133.1
30°	2275.3	2264.4	2202.4	2042.0	1983.6
32.5°	2158.7	2140.4	2074.8	1907.1	1859.7
35°	2038.3	2023.7	1925.3	1779.4	1735.7
37.5°	1918.0	1899.8	1775.8	1659.1	1604.4
40°	1797.7	1775.8	1640.9	1535.1	1476.8
42.5°	1684.6	1655.5	1524.2	1411.2	1345.5
45°	1564.3	1531.5	1400.2	1283.5	1232.5
47.5°	1444.0	1414.8	1294.5	1174.1	1115.8
50°	1316.3	1290.8	1181.4	1061.1	999.1
52.5°	1210.6	1170.5	1064.7	944.4	893.4
55°	1086.6	1053.8	955.4	842.3	798.6
57.5°	973.6	940.8	849.6	743.9	707.4
60°	867.8	820.4	743.9	652.7	623.5
62.5°	751.2	714.7	649.1	572.5	608.9
65°	645.4	608.9	550.6	561.5	466.7
67.5°	528.7	510.5	459.4	408.4	393.8
70°	430.3	408.4	390.2	335.5	320.9
72.5°	342.8	320.9	295.4	266.2	255.2
75°	258.9	240.7	226.1	215.1	237.0
77.5°	178.7	171.4	160.4	149.5	145.9
80°	116.7	113.0	109.4	105.7	102.1
82.5°	69.3	69.3	69.3	69.3	69.3
85°	36.5	40.1	43.8	47.4	51.0
87.5°	21.9	21.9	25.5	29.2	32.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)