

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: P562970

Luminaire Tested: FSR-24-4-LD4-2STD-40-UNV-82-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562970
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-24-4-LD4-2STD-40-UNV-82-94-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6174.0 lumens
Efficiency: N/A
Efficacy: 92.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

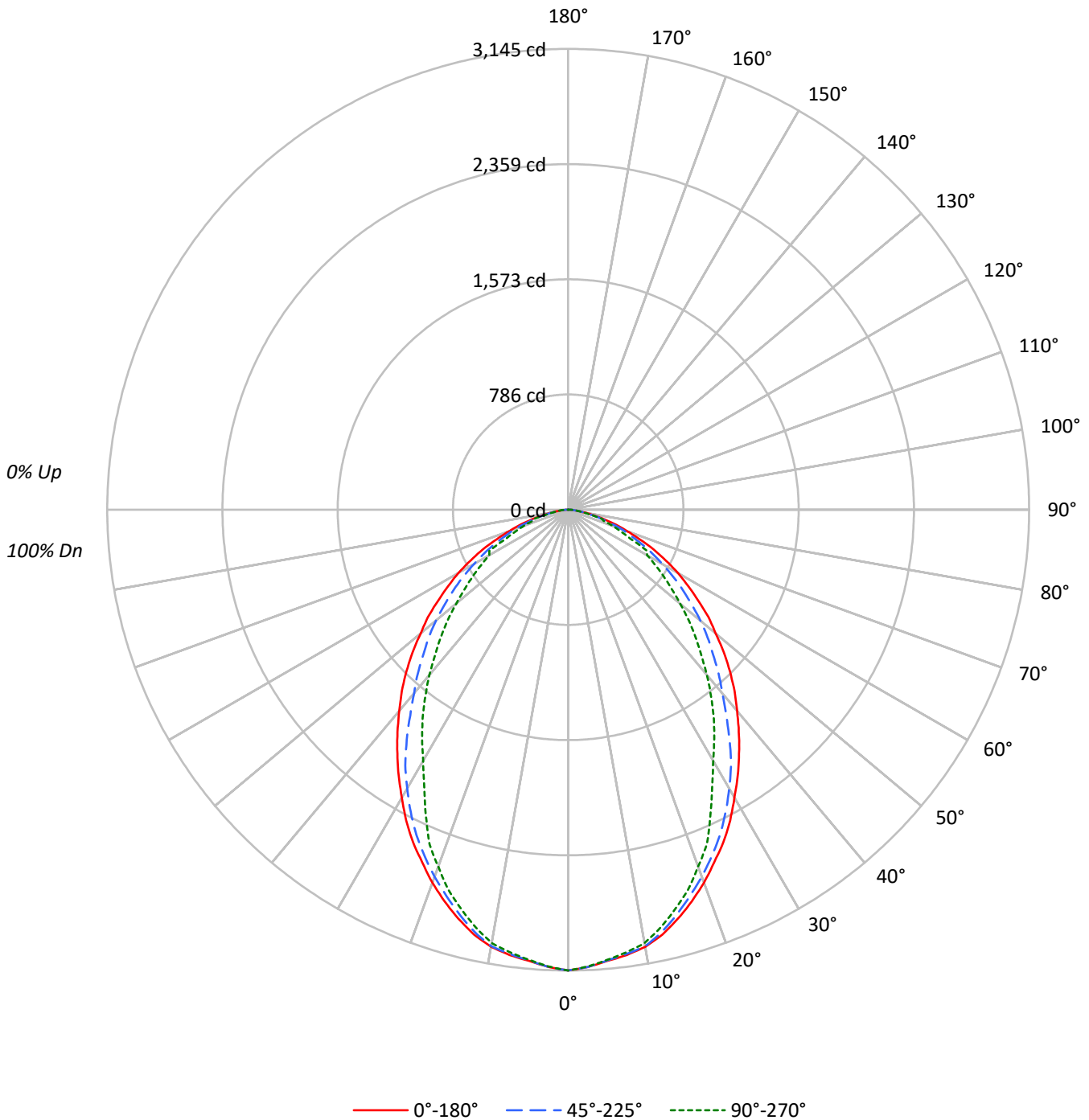
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4232	4232	4232
5°	4174	4169	4164
10°	4138	4133	4103
15°	4026	3986	3930
20°	3878	3816	3712
25°	3719	3638	3411
30°	3525	3412	3073
35°	3338	3153	2843
40°	3148	2874	2586
45°	2968	2657	2338
50°	2747	2466	2085
55°	2542	2235	1868
60°	2329	1996	1673
65°	2049	1748	1482
70°	1688	1530	1258
75°	1342	1172	1228
80°	901	845	789
85°	562	673	786

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2968 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	292.8	4.7
10°-20°	803.4	13.0
20°-30°	1112.3	18.0
30°-40°	1186.0	19.2
40°-50°	1082.0	17.5
50°-60°	847.7	13.7
60°-70°	552.5	8.9
70°-80°	244.8	4.0
80°-90°	52.6	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°	2208.5	35.8
0°-40°	3394.5	55.0
0°-60°	5324.2	86.2
0°-90°	6174.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6174.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3145	3145	3145	3145	3145	
5°	3090	3087	3087	3083	3083	293
15°	2890	2890	2861	2832	2821	813
25°	2505	2490	2450	2363	2298	1150
35°	2032	2018	1920	1774	1731	1271
45°	1560	1527	1396	1280	1229	1201
55°	1084	1051	953	840	796	972
65°	644	607	549	560	465	634
75°	258	240	225	214	236	277
85°	36	40	44	47	51	50
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3145.0	3145.0	3145.0	3145.0	3145.0
2.5°	3123.1	3123.1	3123.1	3119.5	3119.5
5°	3090.4	3086.8	3086.8	3083.1	3083.1
7.5°	3065.0	3061.3	3057.7	3054.1	3046.8
10°	3028.6	3028.6	3025.0	3006.8	3003.2
12.5°	2970.4	2966.8	2952.3	2926.8	2919.5
15°	2890.4	2890.4	2861.4	2832.3	2821.4
17.5°	2803.2	2799.6	2763.2	2734.1	2719.6
20°	2708.7	2701.4	2665.0	2617.8	2592.3
22.5°	2603.2	2603.2	2559.6	2497.8	2472.3
25°	2505.1	2490.5	2450.5	2363.3	2297.8
27.5°	2392.3	2370.5	2326.9	2203.3	2126.9
30°	2268.7	2257.8	2196.0	2036.0	1977.9
32.5°	2152.4	2134.2	2068.8	1901.5	1854.2
35°	2032.4	2017.9	1919.7	1774.3	1730.6
37.5°	1912.4	1894.2	1770.6	1654.3	1599.7
40°	1792.4	1770.6	1636.1	1530.7	1472.5
42.5°	1679.7	1650.6	1519.8	1407.0	1341.6
45°	1559.8	1527.0	1396.1	1279.8	1228.9
47.5°	1439.8	1410.7	1290.7	1170.7	1112.5
50°	1312.5	1287.1	1178.0	1058.0	996.2
52.5°	1207.1	1167.1	1061.6	941.7	890.8
55°	1083.5	1050.7	952.6	839.9	796.2
57.5°	970.8	938.0	847.1	741.7	705.3
60°	865.3	818.1	741.7	650.8	621.7
62.5°	749.0	712.6	647.2	570.8	607.2
65°	643.5	607.2	549.0	559.9	465.4
67.5°	527.2	509.0	458.1	407.2	392.7
70°	429.0	407.2	389.0	334.5	319.9
72.5°	341.8	319.9	294.5	265.4	254.5
75°	258.1	240.0	225.4	214.5	236.3
77.5°	178.2	170.9	160.0	149.1	145.4
80°	116.3	112.7	109.1	105.4	101.8
82.5°	69.1	69.1	69.1	69.1	69.1
85°	36.4	40.0	43.6	47.3	50.9
87.5°	21.8	21.8	25.5	29.1	32.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)