

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: P562956

Luminaire Tested: FSR-24-4-LD4-2STD-40-UNV-81-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562956
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-81-96-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 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: 6237.0 lumens
Efficiency: N/A
Efficacy: 93.6 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

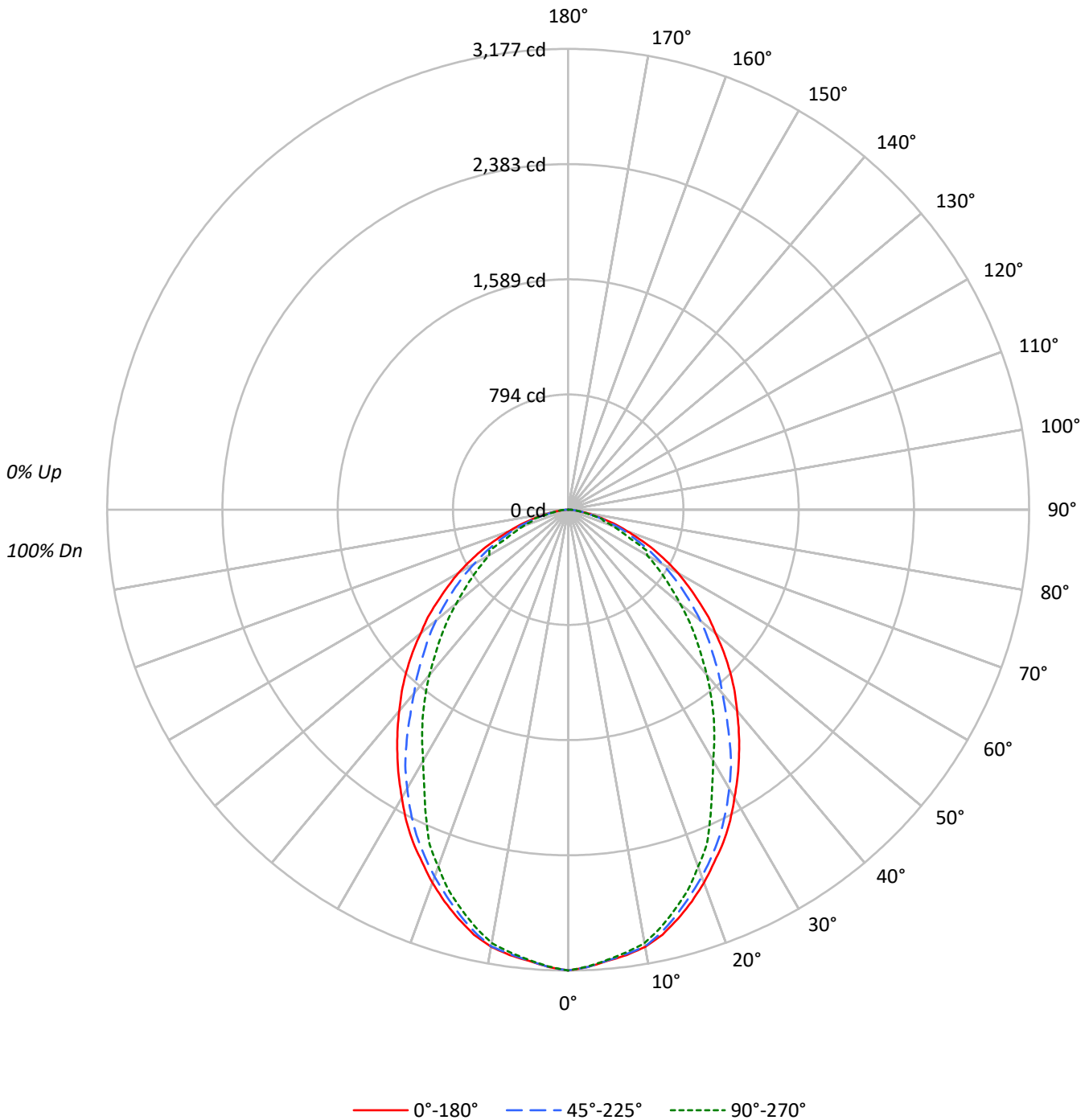
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4275	4275	4275
5°	4217	4212	4207
10°	4180	4175	4145
15°	4067	4026	3970
20°	3918	3855	3750
25°	3757	3675	3446
30°	3561	3447	3104
35°	3372	3185	2872
40°	3180	2903	2613
45°	2998	2684	2362
50°	2775	2491	2107
55°	2567	2257	1887
60°	2352	2016	1690
65°	2070	1766	1497
70°	1705	1546	1271
75°	1356	1184	1241
80°	910	854	797
85°	567	681	794

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2998 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	295.7	4.7
10°-20°	811.6	13.0
20°-30°	1123.7	18.0
30°-40°	1198.1	19.2
40°-50°	1093.1	17.5
50°-60°	856.3	13.7
60°-70°	558.1	8.9
70°-80°	247.3	4.0
80°-90°	53.1	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°	2231.0	35.8
0°-40°	3429.2	55.0
0°-60°	5378.6	86.2
0°-90°	6237.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6237.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3177	3177	3177	3177	3177	
5°	3122	3118	3118	3115	3115	296
15°	2920	2920	2891	2861	2850	821
25°	2531	2516	2476	2387	2321	1162
35°	2053	2038	1939	1792	1748	1284
45°	1576	1543	1410	1293	1241	1214
55°	1094	1062	962	848	804	982
65°	650	613	555	566	470	641
75°	261	242	228	217	239	280
85°	37	40	44	48	51	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3177.0	3177.0	3177.0	3177.0	3177.0
2.5°	3155.0	3155.0	3155.0	3151.3	3151.3
5°	3122.0	3118.3	3118.3	3114.6	3114.6
7.5°	3096.2	3092.6	3088.9	3085.2	3077.9
10°	3059.5	3059.5	3055.8	3037.5	3033.8
12.5°	3000.7	2997.1	2982.4	2956.7	2949.3
15°	2919.9	2919.9	2890.6	2861.2	2850.2
17.5°	2831.8	2828.1	2791.4	2762.0	2747.3
20°	2736.3	2729.0	2692.2	2644.5	2618.8
22.5°	2629.8	2629.8	2585.7	2523.3	2497.6
25°	2530.6	2515.9	2475.5	2387.4	2321.3
27.5°	2416.8	2394.7	2350.6	2225.8	2148.6
30°	2291.9	2280.9	2218.4	2056.8	1998.0
32.5°	2174.3	2156.0	2089.9	1920.9	1873.2
35°	2053.1	2038.5	1939.3	1792.4	1748.3
37.5°	1931.9	1913.6	1788.7	1671.2	1616.1
40°	1810.7	1788.7	1652.8	1546.3	1487.5
42.5°	1696.9	1667.5	1535.3	1421.4	1355.3
45°	1575.7	1542.6	1410.4	1292.9	1241.4
47.5°	1454.5	1425.1	1303.9	1182.7	1123.9
50°	1325.9	1300.2	1190.0	1068.8	1006.4
52.5°	1219.4	1179.0	1072.5	951.3	899.9
55°	1094.5	1061.5	962.3	848.4	804.4
57.5°	980.7	947.6	855.8	749.3	712.5
60°	874.1	826.4	749.3	657.4	628.1
62.5°	756.6	719.9	653.8	576.6	613.4
65°	650.1	613.4	554.6	565.6	470.1
67.5°	532.6	514.2	462.8	411.4	396.7
70°	433.4	411.4	393.0	337.9	323.2
72.5°	345.3	323.2	297.5	268.1	257.1
75°	260.8	242.4	227.7	216.7	238.7
77.5°	180.0	172.6	161.6	150.6	146.9
80°	117.5	113.9	110.2	106.5	102.8
82.5°	69.8	69.8	69.8	69.8	69.8
85°	36.7	40.4	44.1	47.7	51.4
87.5°	22.0	22.0	25.7	29.4	33.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)