

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: P562952

Luminaire Tested: FSR-24-4-LD4-2STD-40-UNV-81-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562952
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-81-88-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5313.0 lumens
Efficiency: N/A
Efficacy: 79.8 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

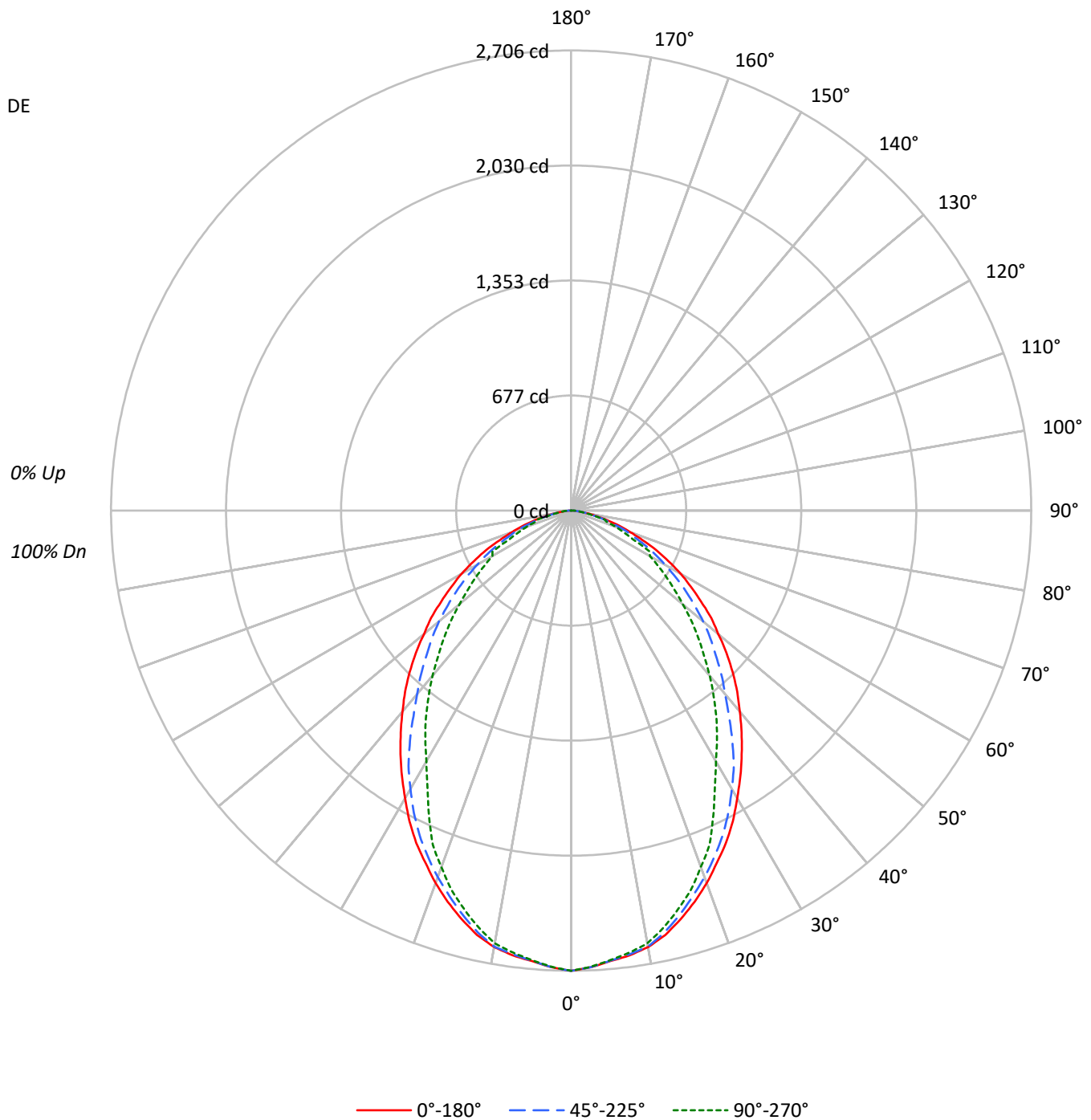
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	3641	3641	3641
5°	3592	3588	3583
10°	3561	3556	3531
15°	3465	3430	3382
20°	3337	3284	3194
25°	3200	3131	2936
30°	3033	2936	2644
35°	2873	2713	2446
40°	2709	2473	2226
45°	2554	2286	2012
50°	2364	2122	1795
55°	2187	1923	1607
60°	2004	1718	1440
65°	1763	1504	1275
70°	1452	1317	1083
75°	1155	1009	1057
80°	776	728	679
85°	483	579	676

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2554 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	251.9	4.7
10°-20°	691.4	13.0
20°-30°	957.2	18.0
30°-40°	1020.6	19.2
40°-50°	931.1	17.5
50°-60°	729.5	13.7
60°-70°	475.4	8.9
70°-80°	210.6	4.0
80°-90°	45.2	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°	1900.5	35.8
0°-40°	2921.1	55.0
0°-60°	4581.7	86.2
0°-90°	5313.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5313.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2706	2706	2706	2706	2706	
5°	2659	2656	2656	2653	2653	252
15°	2487	2487	2462	2437	2428	699
25°	2156	2143	2109	2034	1977	990
35°	1749	1736	1652	1527	1489	1093
45°	1342	1314	1201	1101	1058	1034
55°	932	904	820	723	685	836
65°	554	522	472	482	400	546
75°	222	206	194	185	203	238
85°	31	34	38	41	44	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2706.4	2706.4	2706.4	2706.4	2706.4
2.5°	2687.6	2687.6	2687.6	2684.5	2684.5
5°	2659.4	2656.3	2656.3	2653.2	2653.2
7.5°	2637.5	2634.4	2631.3	2628.2	2621.9
10°	2606.3	2606.3	2603.1	2587.5	2584.3
12.5°	2556.2	2553.1	2540.5	2518.6	2512.4
15°	2487.4	2487.4	2462.3	2437.3	2427.9
17.5°	2412.3	2409.1	2377.9	2352.8	2340.3
20°	2330.9	2324.7	2293.4	2252.7	2230.8
22.5°	2240.2	2240.2	2202.6	2149.5	2127.6
25°	2155.7	2143.2	2108.8	2033.7	1977.4
27.5°	2058.7	2039.9	2002.4	1896.0	1830.3
30°	1952.3	1943.0	1889.8	1752.1	1702.0
32.5°	1852.2	1836.6	1780.3	1636.3	1595.7
35°	1749.0	1736.5	1652.0	1526.8	1489.3
37.5°	1645.7	1630.1	1523.7	1423.6	1376.7
40°	1542.5	1523.7	1407.9	1317.2	1267.1
42.5°	1445.5	1420.5	1307.8	1210.8	1154.5
45°	1342.2	1314.1	1201.4	1101.3	1057.5
47.5°	1239.0	1214.0	1110.7	1007.5	957.4
50°	1129.5	1107.6	1013.7	910.5	857.3
52.5°	1038.7	1004.3	913.6	810.3	766.5
55°	932.4	904.2	819.7	722.7	685.2
57.5°	835.4	807.2	729.0	638.3	607.0
60°	744.6	704.0	638.3	560.0	535.0
62.5°	644.5	613.2	556.9	491.2	522.5
65°	553.8	522.5	472.4	481.8	400.5
67.5°	453.7	438.0	394.2	350.4	337.9
70°	369.2	350.4	334.8	287.8	275.3
72.5°	294.1	275.3	253.4	228.4	219.0
75°	222.1	206.5	194.0	184.6	203.4
77.5°	153.3	147.1	137.7	128.3	125.2
80°	100.1	97.0	93.9	90.7	87.6
82.5°	59.4	59.4	59.4	59.4	59.4
85°	31.3	34.4	37.5	40.7	43.8
87.5°	18.8	18.8	21.9	25.0	28.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)