

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: P563183

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-93-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563183
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-LD4-3HI-40-UNV-93-97-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13888.0 lumens
Efficiency: N/A
Efficacy: 107.2 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

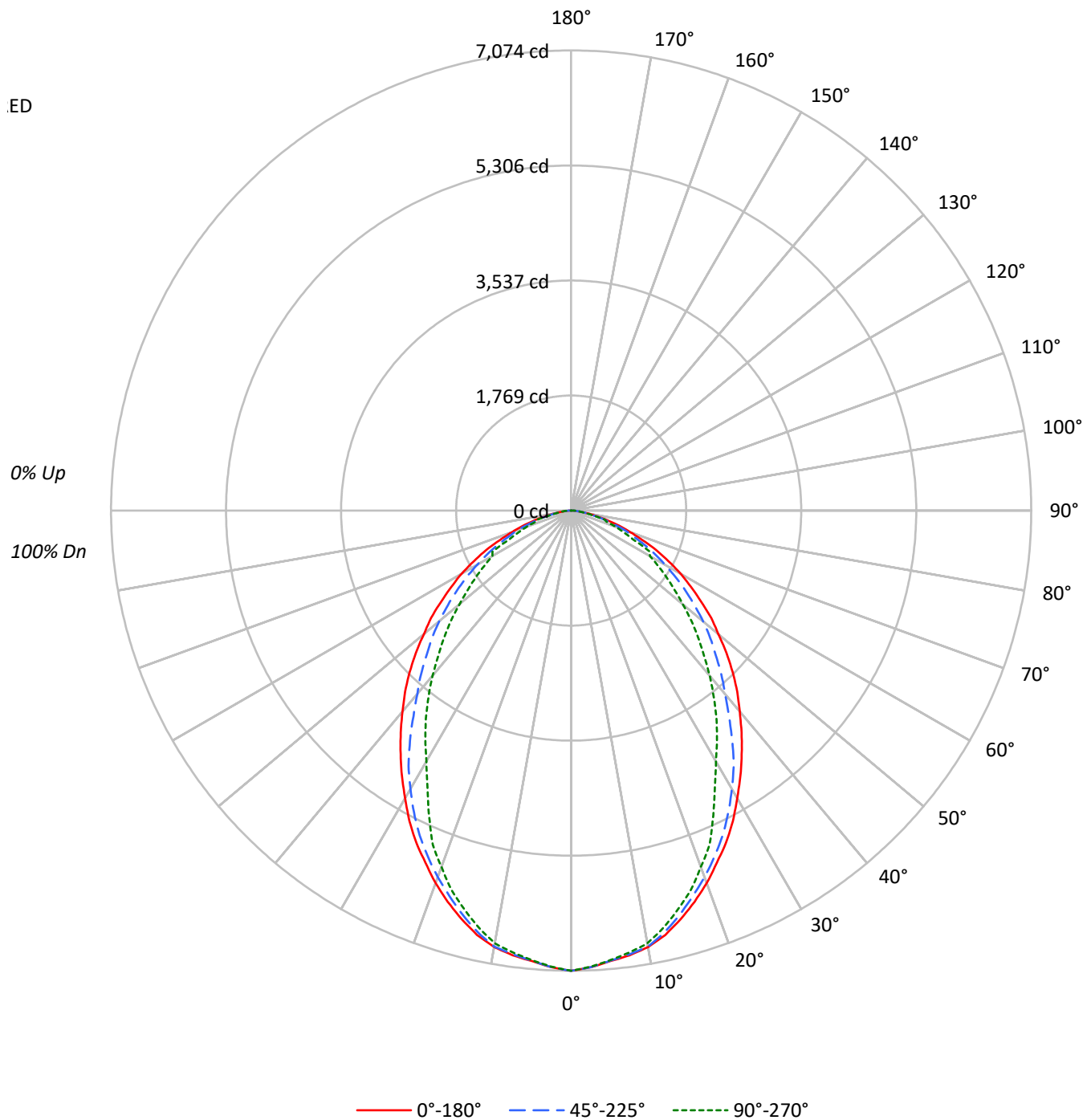
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	9519	9519	9519
5°	9389	9378	9367
10°	9308	9297	9230
15°	9057	8966	8840
20°	8724	8584	8349
25°	8366	8183	7674
30°	7929	7675	6912
35°	7509	7093	6394
40°	7082	6464	5818
45°	6676	5976	5260
50°	6180	5547	4691
55°	5717	5027	4202
60°	5238	4490	3763
65°	4609	3932	3333
70°	3797	3443	2831
75°	3019	2636	2764
80°	2028	1901	1774
85°	1263	1514	1768

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6676 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	658.5	4.7
10°-20°	1807.3	13.0
20°-30°	2502.0	18.0
30°-40°	2667.9	19.2
40°-50°	2433.9	17.5
50°-60°	1906.8	13.7
60°-70°	1242.8	8.9
70°-80°	550.6	4.0
80°-90°	118.2	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°	4967.9	35.8
0°-40°	7635.8	55.0
0°-60°	11976.5	86.2
0°-90°	13888.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13888.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7074	7074	7074	7074	7074	
5°	6952	6944	6944	6935	6935	660
15°	6502	6502	6436	6371	6346	1828
25°	5635	5602	5512	5316	5169	2587
35°	4572	4539	4318	3991	3893	2858
45°	3509	3435	3140	2879	2764	2703
55°	2437	2364	2143	1889	1791	2186
65°	1448	1366	1235	1260	1047	1427
75°	581	540	507	482	532	622
85°	82	90	98	106	114	113
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7074.4	7074.4	7074.4	7074.4	7074.4
2.5°	7025.3	7025.3	7025.3	7017.1	7017.1
5°	6951.7	6943.5	6943.5	6935.3	6935.3
7.5°	6894.4	6886.3	6878.1	6869.9	6853.5
10°	6812.7	6812.7	6804.5	6763.6	6755.4
12.5°	6681.8	6673.6	6640.9	6583.7	6567.3
15°	6501.9	6501.9	6436.4	6371.0	6346.5
17.5°	6305.6	6297.4	6215.6	6150.2	6117.5
20°	6092.9	6076.6	5994.8	5888.5	5831.2
22.5°	5855.8	5855.8	5757.6	5618.6	5561.3
25°	5635.0	5602.2	5512.3	5316.0	5168.8
27.5°	5381.4	5332.4	5234.2	4956.1	4784.4
30°	5103.4	5078.8	4939.8	4579.9	4449.1
32.5°	4841.6	4800.8	4653.5	4277.3	4171.0
35°	4571.8	4539.0	4318.2	3991.1	3892.9
37.5°	4301.9	4261.0	3982.9	3721.2	3598.5
40°	4032.0	3982.9	3680.3	3443.1	3312.3
42.5°	3778.4	3713.0	3418.6	3165.1	3017.8
45°	3508.6	3435.0	3140.5	2878.8	2764.3
47.5°	3238.7	3173.2	2903.4	2633.5	2502.6
50°	2952.4	2895.2	2649.8	2379.9	2240.9
52.5°	2715.2	2625.3	2388.1	2118.2	2003.7
55°	2437.2	2363.6	2142.8	1889.2	1791.1
57.5°	2183.6	2110.0	1905.6	1668.4	1586.6
60°	1946.5	1840.2	1668.4	1463.9	1398.5
62.5°	1684.8	1603.0	1455.8	1284.0	1365.8
65°	1447.6	1365.8	1234.9	1259.5	1046.8
67.5°	1185.9	1145.0	1030.5	916.0	883.3
70°	965.1	916.0	875.1	752.4	719.7
72.5°	768.8	719.7	662.5	597.0	572.5
75°	580.7	539.8	507.1	482.5	531.6
77.5°	400.7	384.4	359.9	335.3	327.1
80°	261.7	253.5	245.4	237.2	229.0
82.5°	155.4	155.4	155.4	155.4	155.4
85°	81.8	90.0	98.1	106.3	114.5
87.5°	49.1	49.1	57.2	65.4	73.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)