

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: P563213

Luminaire Tested: FSR-24-4-LD4-3HI-50-UNV-81-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563213
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-50-UNV-81-96-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13889.0 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

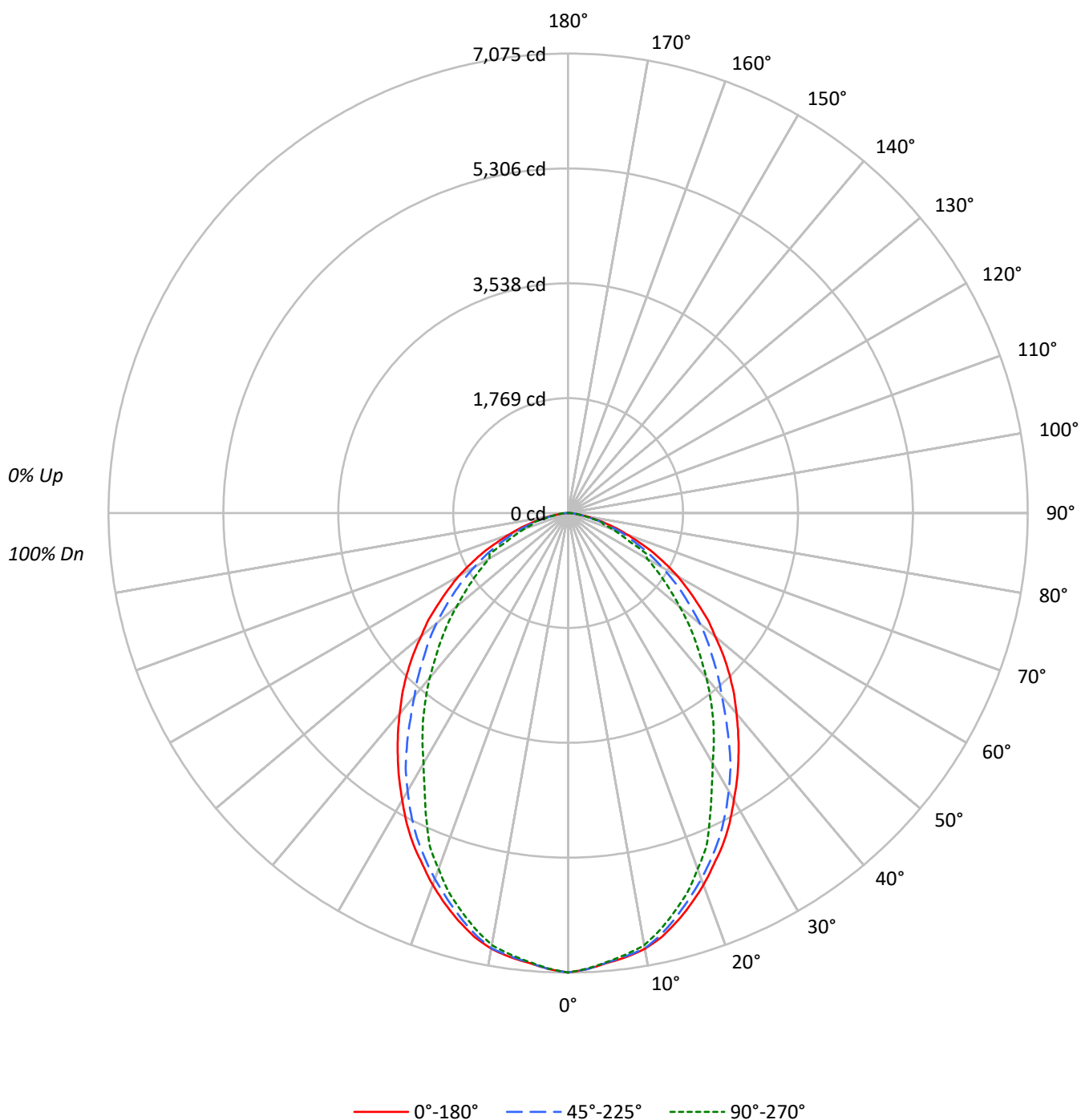
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	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°	9390	9379	9368
10°	9308	9297	9230
15°	9057	8966	8841
20°	8725	8584	8350
25°	8366	8184	7674
30°	7929	7675	6913
35°	7510	7093	6395
40°	7082	6465	5818
45°	6677	5976	5260
50°	6180	5547	4691
55°	5718	5027	4202
60°	5238	4490	3764
65°	4609	3932	3333
70°	3797	3443	2832
75°	3019	2636	2764
80°	2028	1901	1774
85°	1263	1514	1768

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 6677 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	658.6	4.7
10°-20°	1807.4	13.0
20°-30°	2502.2	18.0
30°-40°	2668.1	19.2
40°-50°	2434.1	17.5
50°-60°	1906.9	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°	4968.2	35.8
0°-40°	7636.3	55.0
0°-60°	11977.3	86.2
0°-90°	13889.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13889.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7075	7075	7075	7075	7075	
5°	6952	6944	6944	6936	6936	660
15°	6502	6502	6437	6372	6347	1828
25°	5635	5603	5513	5316	5169	2587
35°	4572	4539	4318	3991	3893	2858
45°	3509	3435	3141	2879	2764	2703
55°	2437	2364	2143	1889	1791	2186
65°	1448	1366	1235	1260	1047	1427
75°	581	540	507	483	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°	7074.9	7074.9	7074.9	7074.9	7074.9
2.5°	7025.8	7025.8	7025.8	7017.6	7017.6
5°	6952.2	6944.0	6944.0	6935.8	6935.8
7.5°	6894.9	6886.8	6878.6	6870.4	6854.0
10°	6813.1	6813.1	6805.0	6764.1	6755.9
12.5°	6682.3	6674.1	6641.4	6584.1	6567.8
15°	6502.3	6502.3	6436.9	6371.5	6346.9
17.5°	6306.0	6297.9	6216.1	6150.6	6117.9
20°	6093.4	6077.0	5995.2	5888.9	5831.7
22.5°	5856.2	5856.2	5758.0	5619.0	5561.7
25°	5635.4	5602.6	5512.7	5316.4	5169.2
27.5°	5381.8	5332.7	5234.6	4956.5	4784.7
30°	5103.7	5079.2	4940.1	4580.3	4449.4
32.5°	4842.0	4801.1	4653.9	4277.6	4171.3
35°	4572.1	4539.4	4318.5	3991.4	3893.2
37.5°	4302.2	4261.3	3983.2	3721.5	3598.8
40°	4032.3	3983.2	3680.6	3443.4	3312.5
42.5°	3778.7	3713.3	3418.8	3165.3	3018.1
45°	3508.8	3435.2	3140.8	2879.0	2764.5
47.5°	3238.9	3173.5	2903.6	2633.7	2502.8
50°	2952.6	2895.4	2650.0	2380.1	2241.1
52.5°	2715.4	2625.5	2388.3	2118.4	2003.9
55°	2437.4	2363.7	2142.9	1889.4	1791.2
57.5°	2183.8	2110.2	1905.7	1668.5	1586.7
60°	1946.6	1840.3	1668.5	1464.0	1398.6
62.5°	1684.9	1603.1	1455.9	1284.1	1365.9
65°	1447.7	1365.9	1235.0	1259.6	1046.9
67.5°	1186.0	1145.1	1030.6	916.1	883.3
70°	965.1	916.1	875.2	752.5	719.8
72.5°	768.8	719.8	662.5	597.1	572.5
75°	580.7	539.8	507.1	482.6	531.6
77.5°	400.8	384.4	359.9	335.3	327.2
80°	261.7	253.6	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	57.3	65.4	73.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)