

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: P564205

Luminaire Tested: FSR-24-4-LD4-4STD-50-UNV-93-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564205
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-LD4-4STD-50-UNV-93-96-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15924.0 lumens
Efficiency: N/A
Efficacy: 119.5 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

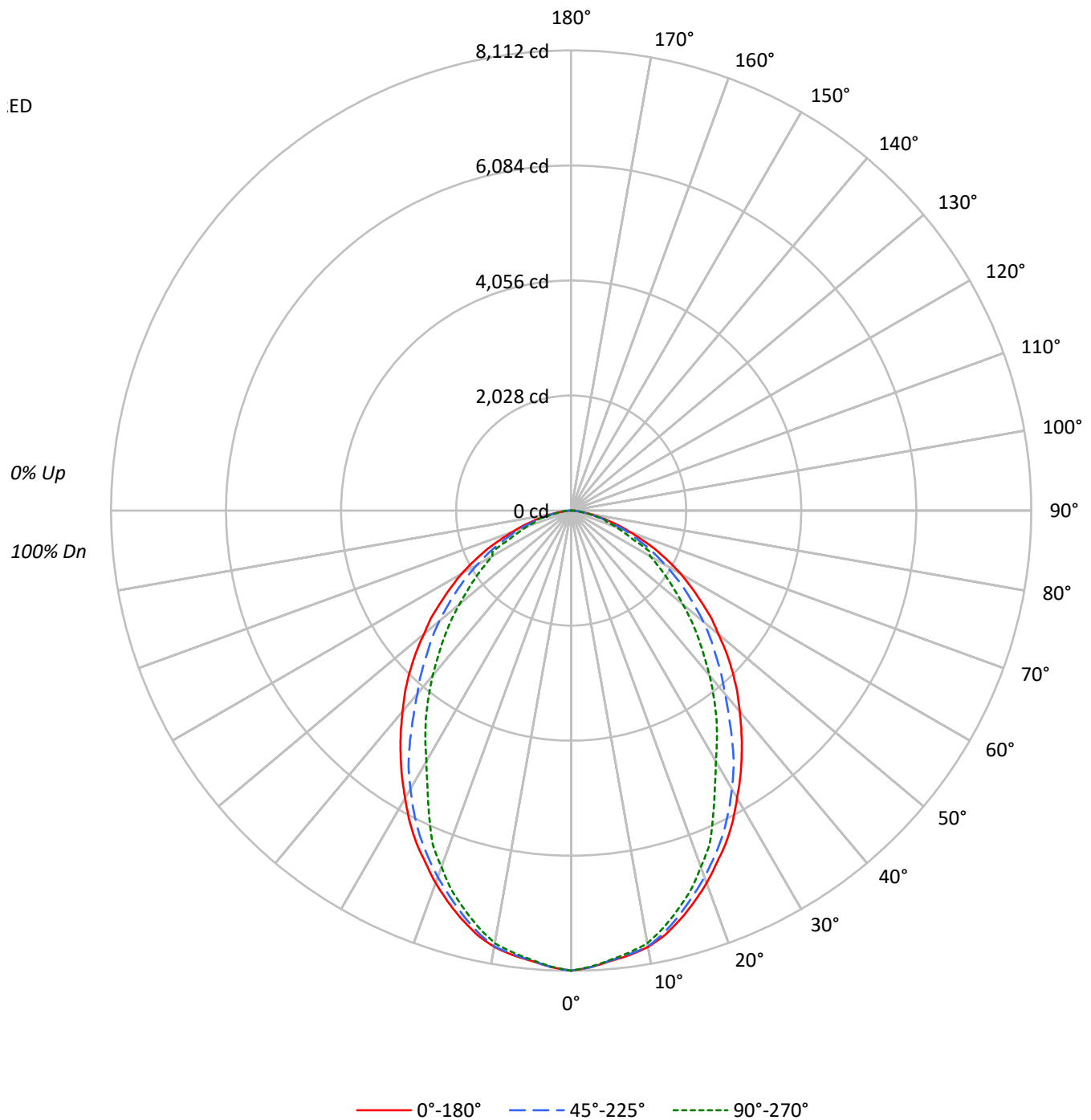
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	10914	10914	10914
5°	10766	10753	10740
10°	10672	10659	10583
15°	10385	10280	10136
20°	10003	9842	9573
25°	9592	9383	8798
30°	9091	8800	7926
35°	8610	8133	7332
40°	8120	7412	6671
45°	7655	6852	6031
50°	7086	6360	5378
55°	6555	5763	4818
60°	6006	5148	4315
65°	5284	4508	3821
70°	4353	3947	3246
75°	3461	3022	3169
80°	2325	2180	2035
85°	1448	1737	2027

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7655 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	755.1	4.7
10°-20°	2072.2	13.0
20°-30°	2868.9	18.0
30°-40°	3059.0	19.2
40°-50°	2790.7	17.5
50°-60°	2186.3	13.7
60°-70°	1424.9	8.9
70°-80°	631.3	4.0
80°-90°	135.6	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°	5696.1	35.8
0°-40°	8755.2	55.0
0°-60°	13732.2	86.2
0°-90°	15924.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15924.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8112	8112	8112	8112	8112	
5°	7971	7961	7961	7952	7952	757
15°	7455	7455	7380	7305	7277	2096
25°	6461	6424	6320	6095	5926	2966
35°	5242	5204	4951	4576	4464	3277
45°	4023	3938	3601	3301	3170	3099
55°	2794	2710	2457	2166	2054	2506
65°	1660	1566	1416	1444	1200	1636
75°	666	619	581	553	610	714
85°	94	103	112	122	131	130
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8111.5	8111.5	8111.5	8111.5	8111.5
2.5°	8055.2	8055.2	8055.2	8045.8	8045.8
5°	7970.8	7961.4	7961.4	7952.1	7952.1
7.5°	7905.2	7895.8	7886.4	7877.0	7858.3
10°	7811.4	7811.4	7802.0	7755.1	7745.8
12.5°	7661.4	7652.0	7614.5	7548.8	7530.1
15°	7455.1	7455.1	7380.0	7305.0	7276.9
17.5°	7230.0	7220.6	7126.8	7051.8	7014.3
20°	6986.2	6967.4	6873.7	6751.7	6686.1
22.5°	6714.2	6714.2	6601.7	6442.3	6376.6
25°	6461.0	6423.5	6320.4	6095.3	5926.5
27.5°	6170.3	6114.1	6001.6	5682.7	5485.8
30°	5851.5	5823.4	5664.0	5251.4	5101.3
32.5°	5551.4	5504.5	5335.8	4904.4	4782.5
35°	5242.0	5204.5	4951.3	4576.2	4463.7
37.5°	4932.5	4885.6	4566.8	4266.7	4126.1
40°	4623.1	4566.8	4219.8	3947.9	3797.9
42.5°	4332.4	4257.4	3919.8	3629.1	3460.3
45°	4022.9	3938.5	3600.9	3300.9	3169.6
47.5°	3713.5	3638.4	3329.0	3019.5	2869.5
50°	3385.3	3319.6	3038.3	2728.8	2569.4
52.5°	3113.3	3010.2	2738.2	2428.8	2297.5
55°	2794.5	2710.1	2456.9	2166.2	2053.7
57.5°	2503.8	2419.4	2184.9	1913.0	1819.2
60°	2231.8	2109.9	1913.0	1678.6	1603.5
62.5°	1931.7	1838.0	1669.2	1472.3	1566.0
65°	1659.8	1566.0	1416.0	1444.1	1200.3
67.5°	1359.7	1312.8	1181.6	1050.3	1012.8
70°	1106.5	1050.3	1003.4	862.7	825.2
72.5°	881.5	825.2	759.6	684.6	656.4
75°	665.8	618.9	581.4	553.3	609.5
77.5°	459.5	440.7	412.6	384.5	375.1
80°	300.1	290.7	281.3	271.9	262.6
82.5°	178.2	178.2	178.2	178.2	178.2
85°	93.8	103.2	112.5	121.9	131.3
87.5°	56.3	56.3	65.6	75.0	84.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)