

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: P563177

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-93-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563177
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-93-88-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12271.0 lumens
Efficiency: N/A
Efficacy: 94.7 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

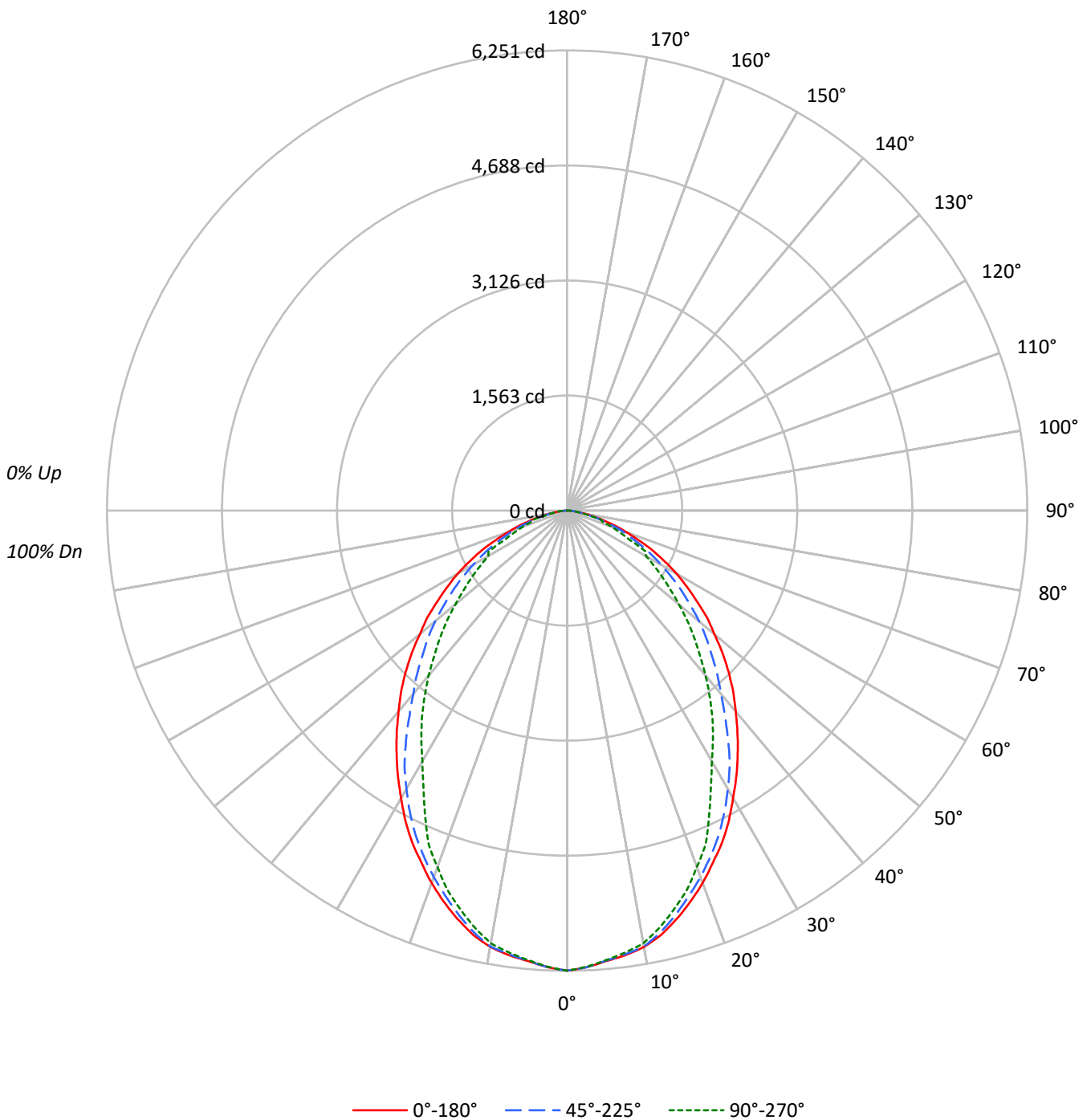
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	8410	8410	8410
5°	8296	8286	8276
10°	8224	8214	8155
15°	8002	7922	7811
20°	7708	7584	7377
25°	7392	7231	6780
30°	7006	6781	6108
35°	6635	6267	5650
40°	6257	5711	5140
45°	5899	5280	4648
50°	5461	4901	4145
55°	5051	4441	3712
60°	4628	3967	3325
65°	4072	3474	2945
70°	3354	3042	2502
75°	2667	2329	2442
80°	1791	1680	1567
85°	1116	1338	1562

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5899 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	581.9	4.7
10°-20°	1596.8	13.0
20°-30°	2210.7	18.0
30°-40°	2357.3	19.2
40°-50°	2150.5	17.5
50°-60°	1684.8	13.7
60°-70°	1098.0	8.9
70°-80°	486.5	4.0
80°-90°	104.5	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°	4389.4	35.8
0°-40°	6746.7	55.0
0°-60°	10582.0	86.2
0°-90°	12271.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12271.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6251	6251	6251	6251	6251	
5°	6142	6135	6135	6128	6128	583
15°	5745	5745	5687	5629	5608	1615
25°	4979	4950	4870	4697	4567	2286
35°	4040	4011	3815	3526	3440	2525
45°	3100	3035	2775	2544	2442	2388
55°	2153	2088	1893	1669	1582	1931
65°	1279	1207	1091	1113	925	1260
75°	513	477	448	426	470	550
85°	72	80	87	94	101	100
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6250.7	6250.7	6250.7	6250.7	6250.7
2.5°	6207.3	6207.3	6207.3	6200.1	6200.1
5°	6142.3	6135.1	6135.1	6127.8	6127.8
7.5°	6091.7	6084.5	6077.3	6070.0	6055.6
10°	6019.4	6019.4	6012.2	5976.1	5968.9
12.5°	5903.8	5896.6	5867.7	5817.1	5802.7
15°	5744.8	5744.8	5687.0	5629.2	5607.5
17.5°	5571.4	5564.2	5491.9	5434.1	5405.2
20°	5383.5	5369.1	5296.8	5202.9	5152.3
22.5°	5174.0	5174.0	5087.3	4964.4	4913.8
25°	4978.9	4950.0	4870.5	4697.0	4567.0
27.5°	4754.9	4711.5	4624.8	4379.1	4227.3
30°	4509.2	4487.5	4364.6	4046.7	3931.1
32.5°	4277.9	4241.8	4111.7	3779.3	3685.4
35°	4039.5	4010.6	3815.4	3526.4	3439.7
37.5°	3801.0	3764.9	3519.2	3287.9	3179.5
40°	3562.5	3519.2	3251.8	3042.2	2926.6
42.5°	3338.5	3280.7	3020.6	2796.5	2666.5
45°	3100.0	3035.0	2774.9	2543.6	2442.5
47.5°	2861.6	2803.8	2565.3	2326.8	2211.2
50°	2608.7	2558.1	2341.3	2102.8	1980.0
52.5°	2399.1	2319.6	2110.1	1871.6	1770.4
55°	2153.4	2088.4	1893.3	1669.3	1582.5
57.5°	1929.4	1864.4	1683.7	1474.1	1401.9
60°	1719.8	1625.9	1474.1	1293.5	1235.7
62.5°	1488.6	1416.3	1286.3	1134.5	1206.8
65°	1279.0	1206.8	1091.2	1112.8	925.0
67.5°	1047.8	1011.7	910.5	809.3	780.4
70°	852.7	809.3	773.2	664.8	635.9
72.5°	679.3	635.9	585.3	527.5	505.8
75°	513.1	476.9	448.0	426.3	469.7
77.5°	354.1	339.6	318.0	296.3	289.0
80°	231.2	224.0	216.8	209.6	202.3
82.5°	137.3	137.3	137.3	137.3	137.3
85°	72.3	79.5	86.7	93.9	101.2
87.5°	43.4	43.4	50.6	57.8	65.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)