

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: P562589

Luminaire Tested: FSR-24-4-LD4-2HI-40-UNV-82-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562589
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-LD4-2HI-40-UNV-82-96-EDD
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8913.0 lumens
Efficiency: N/A
Efficacy: 103.2 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

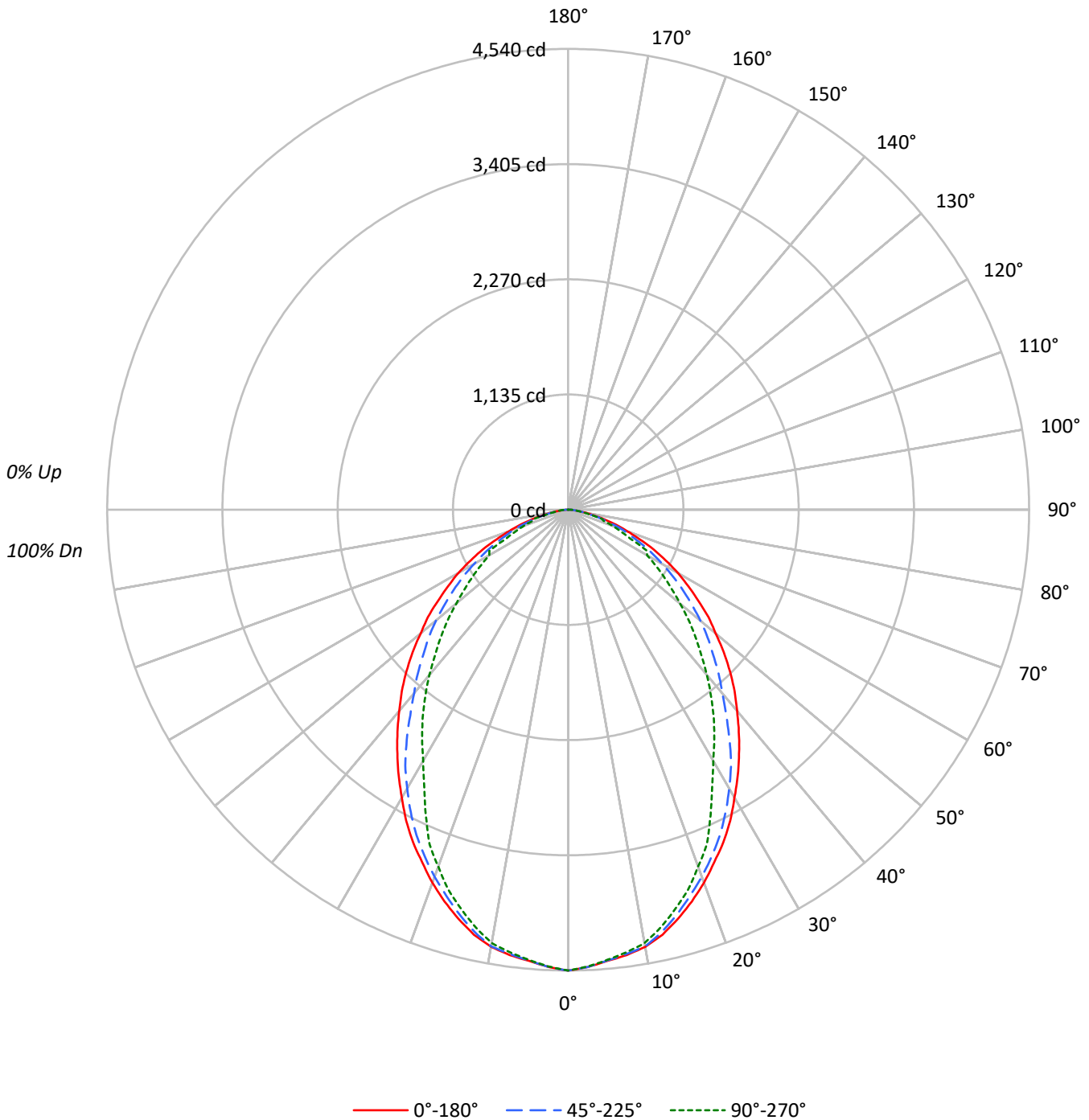
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	6109	6109	6109
5°	6026	6019	6012
10°	5973	5966	5923
15°	5813	5754	5673
20°	5599	5509	5359
25°	5369	5252	4925
30°	5088	4925	4436
35°	4819	4552	4104
40°	4545	4148	3734
45°	4285	3835	3376
50°	3966	3560	3010
55°	3669	3226	2696
60°	3362	2881	2415
65°	2958	2523	2139
70°	2437	2209	1817
75°	1938	1692	1774
80°	1302	1220	1139
85°	810	973	1135

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4285 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	422.6	4.7
10°-20°	1159.9	13.0
20°-30°	1605.8	18.0
30°-40°	1712.2	19.2
40°-50°	1562.0	17.5
50°-60°	1223.7	13.7
60°-70°	797.6	8.9
70°-80°	353.4	4.0
80°-90°	75.9	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°	3188.3	35.8
0°-40°	4900.5	55.0
0°-60°	7686.2	86.2
0°-90°	8913.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8913.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4540	4540	4540	4540	4540	
5°	4461	4456	4456	4451	4451	423
15°	4173	4173	4131	4089	4073	1173
25°	3616	3595	3538	3412	3317	1660
35°	2934	2913	2771	2561	2498	1834
45°	2252	2204	2016	1848	1774	1734
55°	1564	1517	1375	1212	1150	1403
65°	929	876	793	808	672	916
75°	373	346	325	310	341	399
85°	52	58	63	68	74	73
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4540.2	4540.2	4540.2	4540.2	4540.2
2.5°	4508.7	4508.7	4508.7	4503.4	4503.4
5°	4461.4	4456.2	4456.2	4450.9	4450.9
7.5°	4424.7	4419.4	4414.2	4408.9	4398.4
10°	4372.2	4372.2	4367.0	4340.7	4335.5
12.5°	4288.2	4283.0	4262.0	4225.2	4214.7
15°	4172.8	4172.8	4130.8	4088.8	4073.0
17.5°	4046.8	4041.5	3989.0	3947.1	3926.1
20°	3910.3	3899.8	3847.3	3779.1	3742.4
22.5°	3758.1	3758.1	3695.1	3605.9	3569.1
25°	3616.4	3595.4	3537.7	3411.7	3317.2
27.5°	3453.7	3422.2	3359.2	3180.7	3070.5
30°	3275.2	3259.5	3170.2	2939.3	2855.3
32.5°	3107.3	3081.0	2986.5	2745.1	2676.9
35°	2934.0	2913.1	2771.3	2561.4	2498.4
37.5°	2760.8	2734.6	2556.1	2388.2	2309.4
40°	2587.6	2556.1	2361.9	2209.7	2125.7
42.5°	2424.9	2382.9	2194.0	2031.3	1936.8
45°	2251.7	2204.5	2015.5	1847.6	1774.1
47.5°	2078.5	2036.5	1863.3	1690.1	1606.1
50°	1894.8	1858.1	1700.6	1527.4	1438.2
52.5°	1742.6	1684.8	1532.6	1359.4	1285.9
55°	1564.1	1516.9	1375.2	1212.5	1149.5
57.5°	1401.4	1354.2	1223.0	1070.7	1018.3
60°	1249.2	1181.0	1070.7	939.5	897.5
62.5°	1081.2	1028.8	934.3	824.1	876.5
65°	929.0	876.5	792.6	808.3	671.8
67.5°	761.1	734.8	661.3	587.9	566.9
70°	619.4	587.9	561.6	482.9	461.9
72.5°	493.4	461.9	425.1	383.2	367.4
75°	372.7	346.4	325.4	309.7	341.2
77.5°	257.2	246.7	230.9	215.2	209.9
80°	168.0	162.7	157.5	152.2	147.0
82.5°	99.7	99.7	99.7	99.7	99.7
85°	52.5	57.7	63.0	68.2	73.5
87.5°	31.5	31.5	36.7	42.0	47.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)