

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: P563169

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-93-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563169
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-93-84-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14532.0 lumens
Efficiency: N/A
Efficacy: 112.1 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

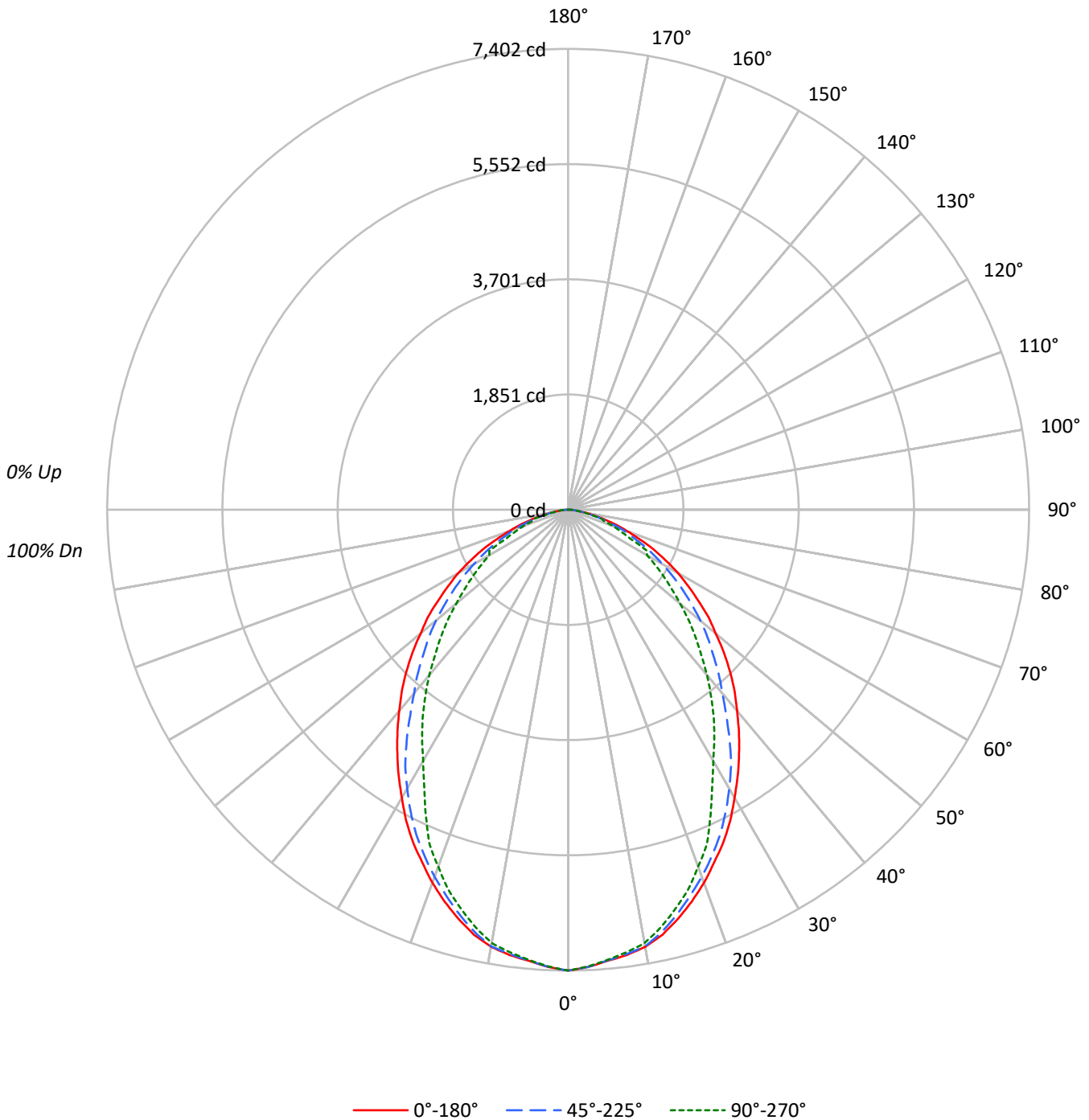
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	9960	9960	9960
5°	9824	9813	9801
10°	9739	9728	9658
15°	9477	9381	9250
20°	9129	8982	8737
25°	8754	8563	8029
30°	8296	8030	7233
35°	7858	7422	6691
40°	7410	6764	6088
45°	6986	6253	5504
50°	6467	5804	4908
55°	5982	5259	4396
60°	5481	4698	3938
65°	4822	4114	3487
70°	3973	3602	2963
75°	3159	2758	2892
80°	2122	1989	1857
85°	1321	1585	1849

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6986 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	689.1	4.7
10°-20°	1891.1	13.0
20°-30°	2618.1	18.0
30°-40°	2791.6	19.2
40°-50°	2546.8	17.5
50°-60°	1995.2	13.7
60°-70°	1300.4	8.9
70°-80°	576.1	4.0
80°-90°	123.7	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°	5198.2	35.8
0°-40°	7989.8	55.0
0°-60°	12531.8	86.2
0°-90°	14532.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14532.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7402	7402	7402	7402	7402	
5°	7274	7266	7266	7257	7257	690
15°	6803	6803	6735	6666	6641	1913
25°	5896	5862	5768	5562	5408	2707
35°	4784	4750	4518	4176	4074	2991
45°	3671	3594	3286	3012	2892	2828
55°	2550	2473	2242	1977	1874	2287
65°	1515	1429	1292	1318	1095	1493
75°	608	565	531	505	556	651
85°	86	94	103	111	120	119
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7402.4	7402.4	7402.4	7402.4	7402.4
2.5°	7351.1	7351.1	7351.1	7342.5	7342.5
5°	7274.0	7265.5	7265.5	7256.9	7256.9
7.5°	7214.1	7205.6	7197.0	7188.5	7171.3
10°	7128.6	7128.6	7120.0	7077.2	7068.7
12.5°	6991.6	6983.1	6948.8	6888.9	6871.8
15°	6803.4	6803.4	6734.9	6666.4	6640.8
17.5°	6598.0	6589.4	6503.8	6435.4	6401.2
20°	6375.5	6358.4	6272.8	6161.5	6101.6
22.5°	6127.3	6127.3	6024.6	5879.1	5819.2
25°	5896.3	5862.0	5767.9	5562.5	5408.5
27.5°	5631.0	5579.6	5476.9	5186.0	5006.3
30°	5340.0	5314.3	5168.8	4792.3	4655.4
32.5°	5066.2	5023.4	4869.3	4475.7	4364.4
35°	4783.8	4749.5	4518.5	4176.2	4073.5
37.5°	4501.3	4458.6	4167.6	3893.8	3765.4
40°	4218.9	4167.6	3851.0	3602.8	3465.9
42.5°	3953.7	3885.2	3577.1	3311.8	3157.8
45°	3671.3	3594.2	3286.2	3012.3	2892.5
47.5°	3388.8	3320.4	3038.0	2755.6	2618.7
50°	3089.3	3029.4	2772.7	2490.3	2344.8
52.5°	2841.2	2747.0	2498.8	2216.4	2096.6
55°	2550.2	2473.2	2242.1	1976.8	1874.1
57.5°	2284.9	2207.9	1993.9	1745.8	1660.2
60°	2036.7	1925.5	1745.8	1531.8	1463.4
62.5°	1762.9	1677.3	1523.3	1343.6	1429.1
65°	1514.7	1429.1	1292.2	1317.9	1095.4
67.5°	1240.9	1198.1	1078.3	958.5	924.2
70°	1009.8	958.5	915.7	787.3	753.1
72.5°	804.4	753.1	693.2	624.7	599.0
75°	607.6	564.8	530.6	504.9	556.3
77.5°	419.3	402.2	376.5	350.9	342.3
80°	273.8	265.3	256.7	248.2	239.6
82.5°	162.6	162.6	162.6	162.6	162.6
85°	85.6	94.1	102.7	111.3	119.8
87.5°	51.3	51.3	59.9	68.5	77.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)