

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: P563553

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

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563553
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-LD4-3STD-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: 11848.0 lumens
Efficiency: N/A
Efficacy: 118.6 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

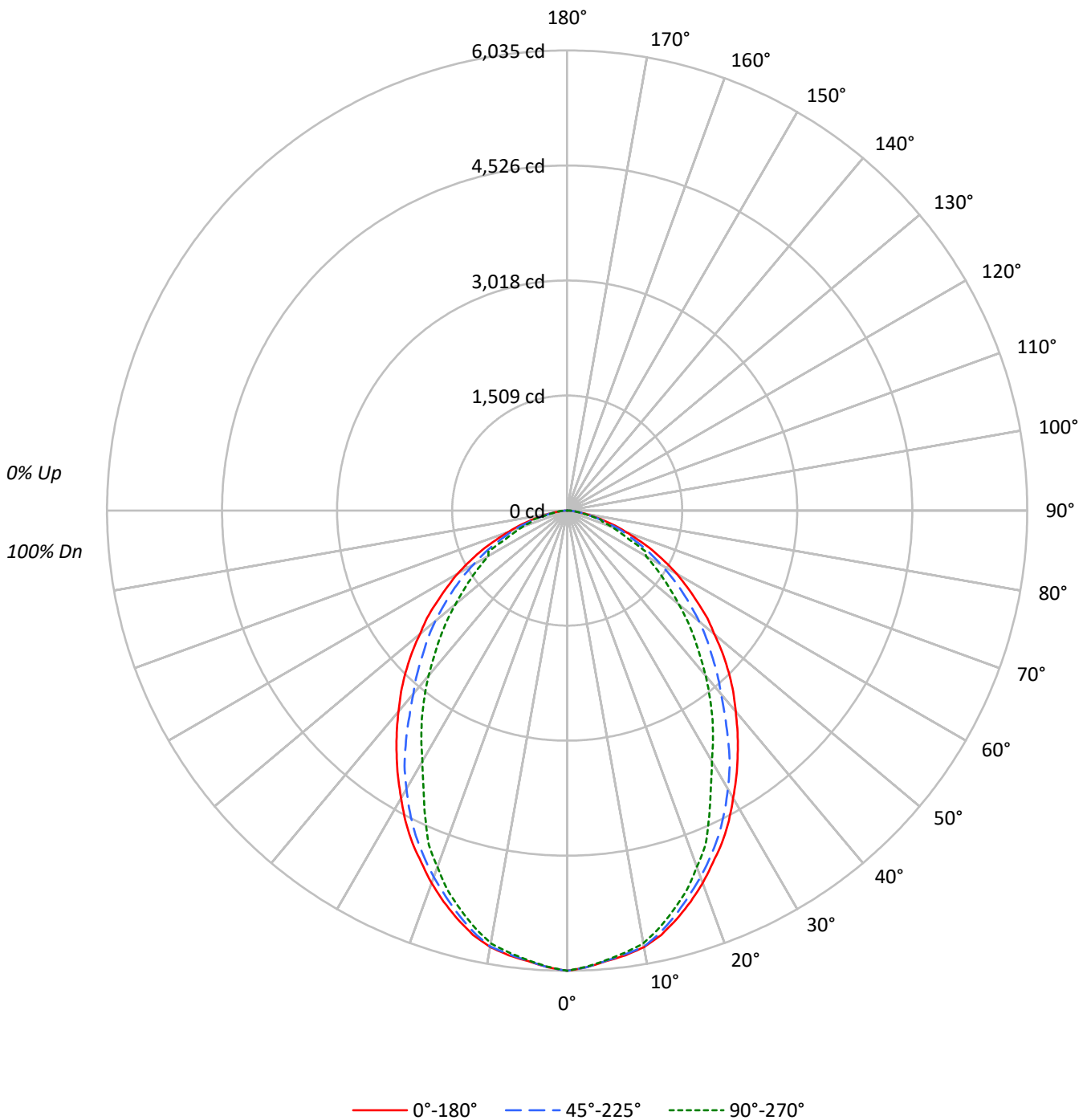
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8120	8120	8120
5°	8010	8001	7991
10°	7940	7931	7874
15°	7726	7649	7542
20°	7443	7323	7123
25°	7137	6981	6546
30°	6764	6547	5897
35°	6406	6051	5455
40°	6042	5515	4963
45°	5695	5098	4487
50°	5272	4732	4002
55°	4877	4288	3584
60°	4469	3830	3211
65°	3932	3354	2843
70°	3239	2937	2415
75°	2575	2249	2358
80°	1730	1622	1514
85°	1078	1292	1508

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5695 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	561.8	4.7
10°-20°	1541.8	13.0
20°-30°	2134.5	18.0
30°-40°	2276.0	19.2
40°-50°	2076.4	17.5
50°-60°	1626.7	13.7
60°-70°	1060.2	8.9
70°-80°	469.7	4.0
80°-90°	100.9	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°	4238.1	35.8
0°-40°	6514.1	55.0
0°-60°	10217.2	86.2
0°-90°	11848.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11848.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6035	6035	6035	6035	6035	
5°	5931	5924	5924	5917	5917	563
15°	5547	5547	5491	5435	5414	1559
25°	4807	4779	4703	4535	4410	2207
35°	3900	3872	3684	3405	3321	2438
45°	2993	2930	2679	2456	2358	2306
55°	2079	2016	1828	1612	1528	1865
65°	1235	1165	1054	1074	893	1217
75°	495	460	433	412	454	531
85°	70	77	84	91	98	97
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6035.2	6035.2	6035.2	6035.2	6035.2
2.5°	5993.4	5993.4	5993.4	5986.4	5986.4
5°	5930.6	5923.6	5923.6	5916.6	5916.6
7.5°	5881.7	5874.7	5867.8	5860.8	5846.8
10°	5811.9	5811.9	5805.0	5770.1	5763.1
12.5°	5700.3	5693.3	5665.4	5616.6	5602.6
15°	5546.8	5546.8	5491.0	5435.2	5414.2
17.5°	5379.4	5372.4	5302.6	5246.8	5218.9
20°	5198.0	5184.0	5114.2	5023.5	4974.7
22.5°	4995.6	4995.6	4911.9	4793.3	4744.4
25°	4807.2	4779.3	4702.6	4535.1	4409.5
27.5°	4590.9	4549.1	4465.4	4228.1	4081.6
30°	4353.7	4332.8	4214.2	3907.2	3795.6
32.5°	4130.5	4095.6	3970.0	3649.0	3558.3
35°	3900.2	3872.3	3683.9	3404.8	3321.1
37.5°	3670.0	3635.1	3397.9	3174.6	3069.9
40°	3439.7	3397.9	3139.7	2937.4	2825.7
42.5°	3223.4	3167.6	2916.4	2700.1	2574.6
45°	2993.2	2930.4	2679.2	2455.9	2358.3
47.5°	2762.9	2707.1	2476.9	2246.6	2135.0
50°	2518.7	2469.9	2260.6	2030.3	1911.7
52.5°	2316.4	2239.7	2037.3	1807.1	1709.4
55°	2079.2	2016.4	1828.0	1611.7	1528.0
57.5°	1862.9	1800.1	1625.7	1423.3	1353.6
60°	1660.6	1569.9	1423.3	1248.9	1193.1
62.5°	1437.3	1367.5	1241.9	1095.4	1165.2
65°	1235.0	1165.2	1053.5	1074.5	893.1
67.5°	1011.7	976.8	879.1	781.4	753.5
70°	823.3	781.4	746.6	641.9	614.0
72.5°	655.8	614.0	565.1	509.3	488.4
75°	495.4	460.5	432.6	411.7	453.5
77.5°	341.9	327.9	307.0	286.1	279.1
80°	223.3	216.3	209.3	202.3	195.4
82.5°	132.6	132.6	132.6	132.6	132.6
85°	69.8	76.7	83.7	90.7	97.7
87.5°	41.9	41.9	48.8	55.8	62.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)