

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: P590995

Luminaire Tested: FSR-24-2-LD4-4STD-50-UNV-93-96-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590995
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-4STD-50-UNV-93-96-EDD
Description: 2X2 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: 7962.0 lumens
Efficiency: N/A
Efficacy: 119.5 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

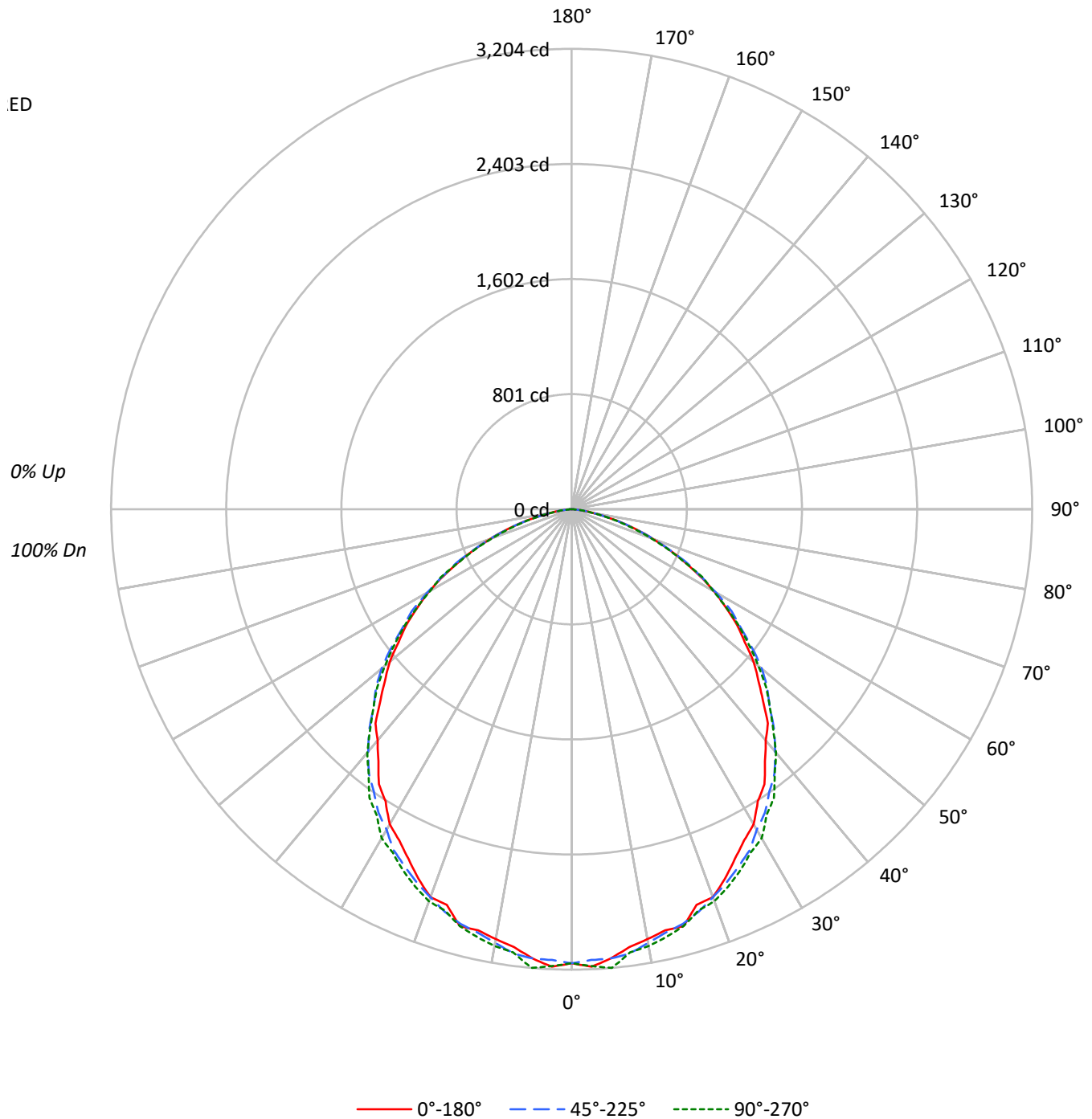
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8501	8501	8501
5°	8473	8476	8655
10°	8301	8374	8433
15°	8367	8322	8368
20°	8226	8226	8313
25°	7973	8147	8237
30°	7863	8001	8214
35°	7678	7879	8056
40°	7379	7735	7769
45°	7156	7411	7421
50°	6921	7233	7095
55°	6594	6723	6675
60°	6167	6228	6116
65°	5498	5638	5459
70°	4718	4733	4602
75°	3737	3727	3584
80°	2503	2433	2338
85°	1362	1346	1260

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°

Vertical Angle: 45°

Luminance: 7601 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	297.2	3.7
10°-20°	842.2	10.6
20°-30°	1261.8	15.8
30°-40°	1495.5	18.8
40°-50°	1498.2	18.8
50°-60°	1271.7	16.0
60°-70°	857.4	10.8
70°-80°	376.7	4.7
80°-90°	61.2	0.8
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°	2401.1	30.2
0°-40°	3896.6	48.9
0°-60°	6666.6	83.7
0°-90°	7962.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7962.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3159	3159	3159	3159	3159	
5°	3137	3129	3138	3128	3204	296
15°	3003	2969	2987	3002	3004	837
25°	2685	2700	2744	2780	2774	1241
35°	2337	2344	2398	2454	2452	1451
45°	1880	1916	1947	1997	1950	1455
55°	1406	1396	1433	1423	1423	1250
65°	864	852	886	852	857	859
75°	359	352	358	333	345	385
85°	44	43	44	42	41	64
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3159.1	3159.1	3159.1	3159.1	3159.1
2.5°	3186.4	3162.4	3139.9	3166.1	3182.0
5°	3136.7	3129.3	3137.9	3128.5	3204.0
7.5°	3072.2	3100.4	3116.7	3106.5	3111.0
10°	3038.0	3028.2	3064.5	3089.8	3086.1
12.5°	3001.3	3016.0	3018.0	3045.3	3047.8
15°	3003.3	2968.6	2987.0	3002.5	3003.7
17.5°	2886.6	2924.2	2936.8	2972.3	2928.3
20°	2872.4	2845.0	2872.4	2908.7	2903.0
22.5°	2784.7	2754.1	2812.8	2845.0	2843.0
25°	2685.2	2699.8	2743.9	2779.8	2774.1
27.5°	2597.9	2615.0	2677.8	2727.2	2695.3
30°	2530.6	2522.0	2575.0	2619.1	2643.5
32.5°	2410.2	2441.2	2503.2	2546.9	2523.6
35°	2337.2	2344.2	2398.4	2453.9	2452.2
37.5°	2209.5	2241.8	2318.0	2333.5	2319.3
40°	2100.6	2132.9	2201.8	2218.5	2211.6
42.5°	2020.3	2026.0	2085.1	2104.3	2073.7
45°	1880.4	1915.5	1947.3	1997.4	1950.1
47.5°	1761.3	1777.6	1846.1	1859.6	1834.7
50°	1653.2	1658.9	1727.8	1711.1	1694.8
52.5°	1517.4	1541.4	1580.2	1576.9	1557.7
55°	1405.6	1396.2	1432.9	1423.1	1422.7
57.5°	1271.4	1287.7	1317.9	1302.4	1277.5
60°	1145.8	1146.2	1157.2	1139.6	1136.4
62.5°	1005.9	1010.8	1013.2	991.6	1026.7
65°	863.5	852.1	885.5	851.7	857.4
67.5°	732.6	738.3	735.0	713.8	722.0
70°	599.6	606.9	601.6	577.6	584.9
72.5°	478.0	469.1	474.8	444.6	458.5
75°	359.4	352.0	358.5	333.2	344.7
77.5°	244.7	250.4	246.4	232.9	240.7
80°	161.5	157.0	157.0	149.3	150.9
82.5°	94.2	89.7	88.5	86.1	89.7
85°	44.1	42.8	43.6	42.4	40.8
87.5°	15.9	16.3	16.3	15.5	14.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)