

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: P563300

Luminaire Tested: FSR-24-4-LD4-3LO-35-UNV-93-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563300
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-LD4-3LO-35-UNV-93-86-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7103.0 lumens
Efficiency: N/A
Efficacy: 101.2 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

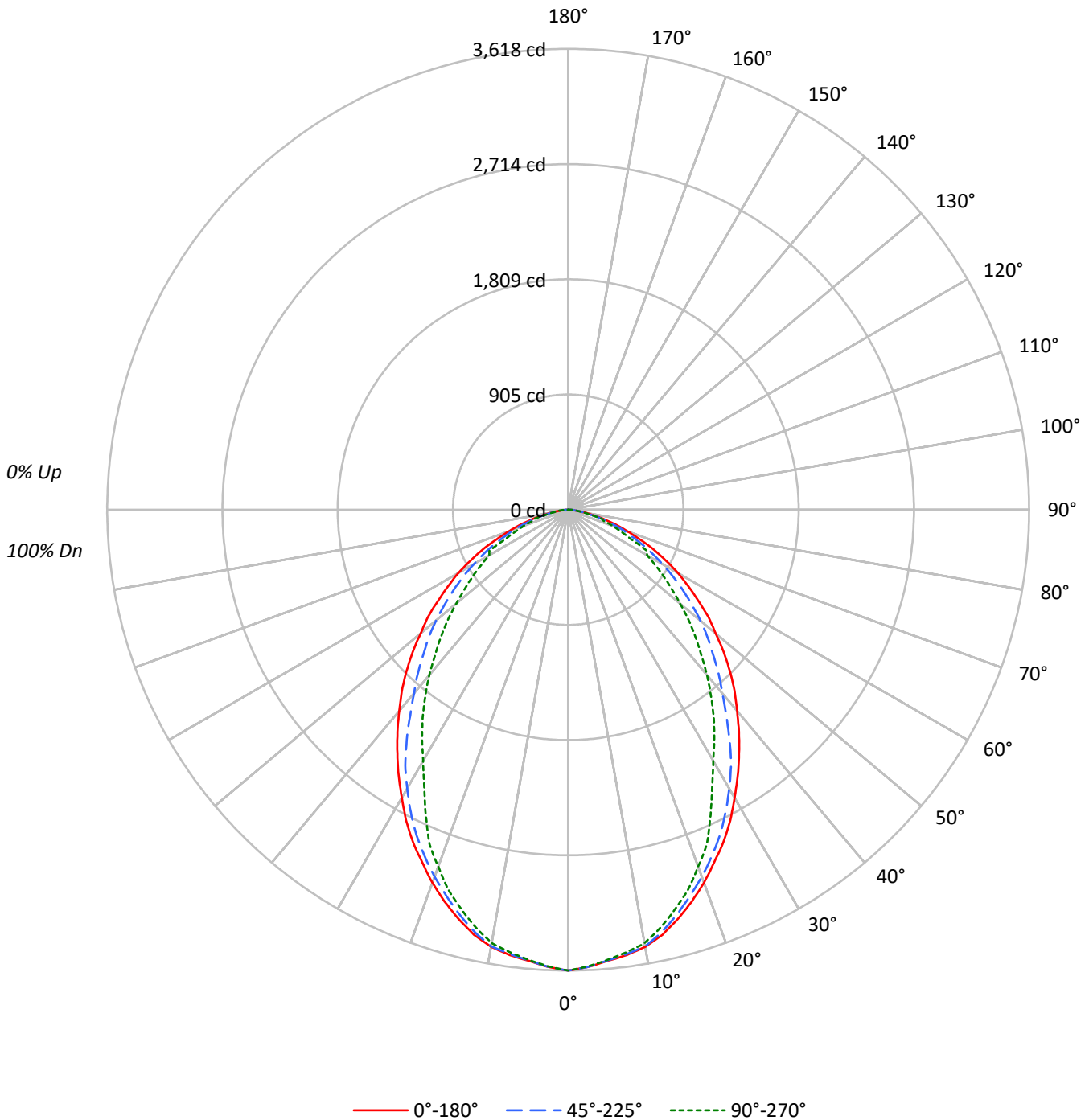
Input Watts (W): 70.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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													100															
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87													87															
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75													75															
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65													65															
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56													56															
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50													50															
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44													44															
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40													40															
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36													36															
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33													33															
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30													30															

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4868	4868	4868
5°	4802	4796	4791
10°	4760	4755	4720
15°	4632	4585	4521
20°	4462	4390	4270
25°	4279	4185	3925
30°	4055	3925	3535
35°	3841	3628	3270
40°	3622	3306	2976
45°	3414	3056	2690
50°	3161	2837	2399
55°	2924	2571	2149
60°	2679	2296	1925
65°	2357	2011	1705
70°	1942	1761	1448
75°	1544	1348	1413
80°	1038	972	907
85°	645	775	905

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3414 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	336.8	4.7
10°-20°	924.3	13.0
20°-30°	1279.7	18.0
30°-40°	1364.5	19.2
40°-50°	1244.8	17.5
50°-60°	975.2	13.7
60°-70°	635.6	8.9
70°-80°	281.6	4.0
80°-90°	60.5	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°	2540.8	35.8
0°-40°	3905.3	55.0
0°-60°	6125.3	86.2
0°-90°	7103.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7103.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3618	3618	3618	3618	3618	
5°	3555	3551	3551	3547	3547	337
15°	3325	3325	3292	3258	3246	935
25°	2882	2865	2819	2719	2644	1323
35°	2338	2322	2208	2041	1991	1462
45°	1794	1757	1606	1472	1414	1382
55°	1246	1209	1096	966	916	1118
65°	740	698	632	644	535	730
75°	297	276	259	247	272	318
85°	42	46	50	54	59	58
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3618.2	3618.2	3618.2	3618.2	3618.2
2.5°	3593.1	3593.1	3593.1	3588.9	3588.9
5°	3555.4	3551.2	3551.2	3547.1	3547.1
7.5°	3526.2	3522.0	3517.8	3513.6	3505.2
10°	3484.3	3484.3	3480.1	3459.2	3455.0
12.5°	3417.4	3413.2	3396.5	3367.2	3358.8
15°	3325.4	3325.4	3291.9	3258.4	3245.9
17.5°	3225.0	3220.8	3179.0	3145.5	3128.8
20°	3116.2	3107.9	3066.0	3011.7	2982.4
22.5°	2994.9	2994.9	2944.7	2873.6	2844.3
25°	2882.0	2865.3	2819.2	2718.9	2643.6
27.5°	2752.3	2727.2	2677.0	2534.8	2447.0
30°	2610.1	2597.6	2526.4	2342.4	2275.5
32.5°	2476.3	2455.3	2380.0	2187.6	2133.3
35°	2338.2	2321.5	2208.5	2041.2	1991.0
37.5°	2200.2	2179.3	2037.1	1903.2	1840.5
40°	2062.1	2037.1	1882.3	1761.0	1694.1
42.5°	1932.5	1899.0	1748.4	1618.8	1543.5
45°	1794.4	1756.8	1606.2	1472.4	1413.8
47.5°	1656.4	1622.9	1484.9	1346.9	1280.0
50°	1510.0	1480.7	1355.2	1217.2	1146.1
52.5°	1388.7	1342.7	1221.4	1083.4	1024.8
55°	1246.5	1208.8	1095.9	966.2	916.0
57.5°	1116.8	1079.2	974.6	853.3	811.5
60°	995.5	941.1	853.3	748.7	715.3
62.5°	861.7	819.8	744.5	656.7	698.5
65°	740.4	698.5	631.6	644.2	535.4
67.5°	606.5	585.6	527.0	468.5	451.7
70°	493.6	468.5	447.6	384.8	368.1
72.5°	393.2	368.1	338.8	305.3	292.8
75°	297.0	276.1	259.3	246.8	271.9
77.5°	205.0	196.6	184.0	171.5	167.3
80°	133.9	129.7	125.5	121.3	117.1
82.5°	79.5	79.5	79.5	79.5	79.5
85°	41.8	46.0	50.2	54.4	58.6
87.5°	25.1	25.1	29.3	33.5	37.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)