

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: P562658

Luminaire Tested: FSR-24-4-LD4-2HI-50-UNV-93-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562658
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-50-UNV-93-85-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8402.0 lumens
Efficiency: N/A
Efficacy: 97.2 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

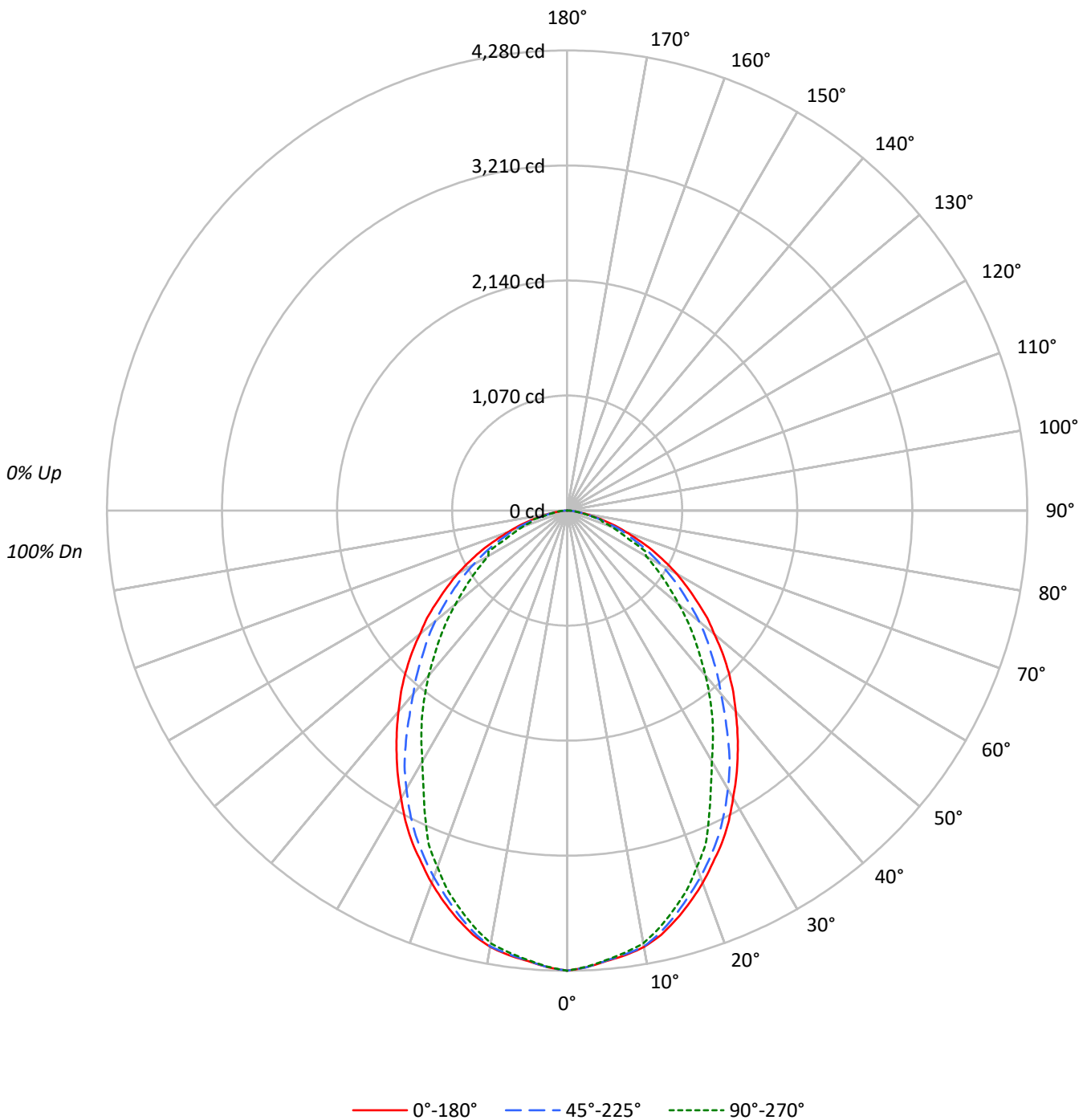
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	5759	5759	5759
5°	5680	5674	5667
10°	5631	5624	5584
15°	5479	5424	5348
20°	5278	5193	5051
25°	5061	4951	4642
30°	4797	4643	4182
35°	4543	4291	3869
40°	4284	3911	3520
45°	4039	3615	3182
50°	3739	3356	2838
55°	3459	3041	2542
60°	3169	2716	2277
65°	2788	2379	2016
70°	2297	2083	1713
75°	1826	1595	1672
80°	1227	1150	1073
85°	764	917	1070

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4039 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	398.4	4.7
10°-20°	1093.4	13.0
20°-30°	1513.7	18.0
30°-40°	1614.0	19.2
40°-50°	1472.5	17.5
50°-60°	1153.6	13.7
60°-70°	751.8	8.9
70°-80°	333.1	4.0
80°-90°	71.5	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°	3005.5	35.8
0°-40°	4619.5	55.0
0°-60°	7245.6	86.2
0°-90°	8402.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8402.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4280	4280	4280	4280	4280	
5°	4206	4201	4201	4196	4196	399
15°	3934	3934	3894	3854	3840	1106
25°	3409	3389	3335	3216	3127	1565
35°	2766	2746	2612	2414	2355	1729
45°	2123	2078	1900	1742	1672	1635
55°	1474	1430	1296	1143	1084	1323
65°	876	826	747	762	633	863
75°	351	327	307	292	322	376
85°	50	54	59	64	69	69
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4279.9	4279.9	4279.9	4279.9	4279.9
2.5°	4250.2	4250.2	4250.2	4245.2	4245.2
5°	4205.6	4200.7	4200.7	4195.8	4195.8
7.5°	4171.0	4166.1	4161.1	4156.2	4146.3
10°	4121.5	4121.5	4116.6	4091.8	4086.9
12.5°	4042.4	4037.4	4017.6	3983.0	3973.1
15°	3933.5	3933.5	3893.9	3854.4	3839.5
17.5°	3814.8	3809.8	3760.3	3720.8	3701.0
20°	3686.1	3676.2	3626.8	3562.4	3527.8
22.5°	3542.6	3542.6	3483.3	3399.2	3364.5
25°	3409.0	3389.3	3334.8	3216.1	3127.0
27.5°	3255.7	3226.0	3166.6	2998.4	2894.5
30°	3087.4	3072.6	2988.5	2770.8	2691.6
32.5°	2929.1	2904.4	2815.3	2587.7	2523.4
35°	2765.8	2746.0	2612.5	2414.5	2355.2
37.5°	2602.6	2577.8	2409.6	2251.3	2177.0
40°	2439.3	2409.6	2226.5	2083.0	2003.9
42.5°	2285.9	2246.3	2068.2	1914.8	1825.7
45°	2122.6	2078.1	1900.0	1741.6	1672.4
47.5°	1959.3	1919.8	1756.5	1593.2	1514.0
50°	1786.2	1751.5	1603.1	1439.8	1355.7
52.5°	1642.7	1588.3	1444.8	1281.5	1212.2
55°	1474.5	1429.9	1296.3	1142.9	1083.6
57.5°	1321.1	1276.5	1152.8	1009.4	959.9
60°	1177.6	1113.3	1009.4	885.7	846.1
62.5°	1019.3	969.8	880.7	776.8	826.3
65°	875.8	826.3	747.1	762.0	633.3
67.5°	717.4	692.7	623.4	554.2	534.4
70°	583.8	554.2	529.4	455.2	435.4
72.5°	465.1	435.4	400.8	361.2	346.3
75°	351.3	326.6	306.8	291.9	321.6
77.5°	242.4	232.5	217.7	202.9	197.9
80°	158.3	153.4	148.4	143.5	138.5
82.5°	94.0	94.0	94.0	94.0	94.0
85°	49.5	54.4	59.4	64.3	69.3
87.5°	29.7	29.7	34.6	39.6	44.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)