

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: P562599

Luminaire Tested: FSR-24-4-LD4-2HI-40-UNV-93-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562599
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-40-UNV-93-87-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9084.0 lumens
Efficiency: N/A
Efficacy: 105.1 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

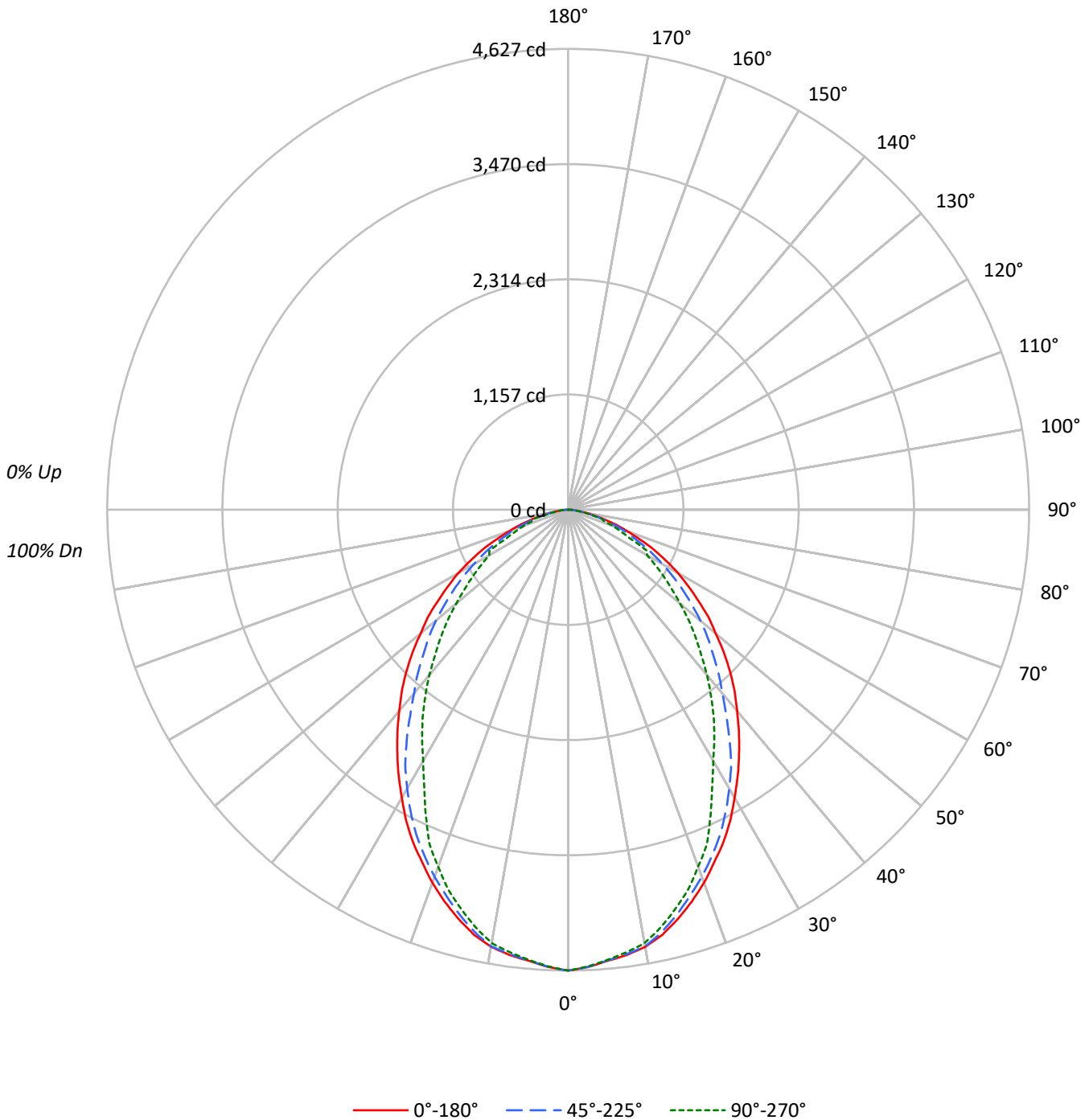
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6226	6226	6226
5°	6141	6134	6127
10°	6088	6081	6037
15°	5924	5864	5782
20°	5706	5614	5461
25°	5472	5353	5019
30°	5186	5020	4521
35°	4912	4639	4182
40°	4632	4228	3805
45°	4367	3909	3440
50°	4042	3628	3068
55°	3739	3288	2748
60°	3426	2937	2462
65°	3015	2572	2180
70°	2483	2252	1852
75°	1974	1724	1808
80°	1327	1244	1161
85°	826	991	1156

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4367 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	430.7	4.7
10°-20°	1182.1	13.0
20°-30°	1636.6	18.0
30°-40°	1745.1	19.2
40°-50°	1592.0	17.5
50°-60°	1247.2	13.7
60°-70°	812.9	8.9
70°-80°	360.1	4.0
80°-90°	77.3	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°	3249.4	35.8
0°-40°	4994.5	55.0
0°-60°	7833.7	86.2
0°-90°	9084.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9084.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4627	4627	4627	4627	4627	
5°	4547	4542	4542	4536	4536	432
15°	4253	4253	4210	4167	4151	1196
25°	3686	3664	3606	3477	3381	1692
35°	2990	2969	2824	2610	2546	1870
45°	2295	2247	2054	1883	1808	1768
55°	1594	1546	1402	1236	1172	1430
65°	947	893	808	824	685	933
75°	380	353	332	316	348	407
85°	54	59	64	70	75	74
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4627.3	4627.3	4627.3	4627.3	4627.3
2.5°	4595.2	4595.2	4595.2	4589.8	4589.8
5°	4547.0	4541.7	4541.7	4536.3	4536.3
7.5°	4509.6	4504.2	4498.9	4493.5	4482.8
10°	4456.1	4456.1	4450.7	4424.0	4418.6
12.5°	4370.5	4365.1	4343.7	4306.3	4295.6
15°	4252.8	4252.8	4210.0	4167.2	4151.2
17.5°	4124.4	4119.1	4065.6	4022.8	4001.4
20°	3985.3	3974.6	3921.1	3851.6	3814.2
22.5°	3830.2	3830.2	3766.0	3675.1	3637.6
25°	3685.8	3664.4	3605.5	3477.1	3380.8
27.5°	3519.9	3487.8	3423.6	3241.8	3129.4
30°	3338.1	3322.0	3231.1	2995.7	2910.1
32.5°	3166.9	3140.1	3043.8	2797.8	2728.2
35°	2990.3	2968.9	2824.5	2610.5	2546.3
37.5°	2813.8	2787.1	2605.2	2434.0	2353.8
40°	2637.3	2605.2	2407.2	2252.1	2166.5
42.5°	2471.4	2428.6	2236.1	2070.2	1973.9
45°	2294.9	2246.8	2054.2	1883.0	1808.1
47.5°	2118.4	2075.6	1899.1	1722.5	1636.9
50°	1931.1	1893.7	1733.2	1556.7	1465.7
52.5°	1776.0	1717.2	1562.0	1385.5	1310.6
55°	1594.1	1546.0	1401.6	1235.7	1171.5
57.5°	1428.3	1380.2	1246.4	1091.3	1037.8
60°	1273.2	1203.6	1091.3	957.6	914.8
62.5°	1102.0	1048.5	952.2	839.9	893.4
65°	946.9	893.4	807.8	823.8	684.7
67.5°	775.7	748.9	674.0	599.1	577.7
70°	631.2	599.1	572.4	492.1	470.8
72.5°	502.8	470.8	433.3	390.5	374.5
75°	379.8	353.1	331.7	315.6	347.7
77.5°	262.1	251.4	235.4	219.3	214.0
80°	171.2	165.8	160.5	155.1	149.8
82.5°	101.6	101.6	101.6	101.6	101.6
85°	53.5	58.8	64.2	69.5	74.9
87.5°	32.1	32.1	37.4	42.8	48.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)