

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: P563980

Luminaire Tested: FSR-24-4-LD4-4LO-50-UNV-81-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563980
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-LD4-4LO-50-UNV-81-96-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9808.0 lumens
Efficiency: N/A
Efficacy: 104.8 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

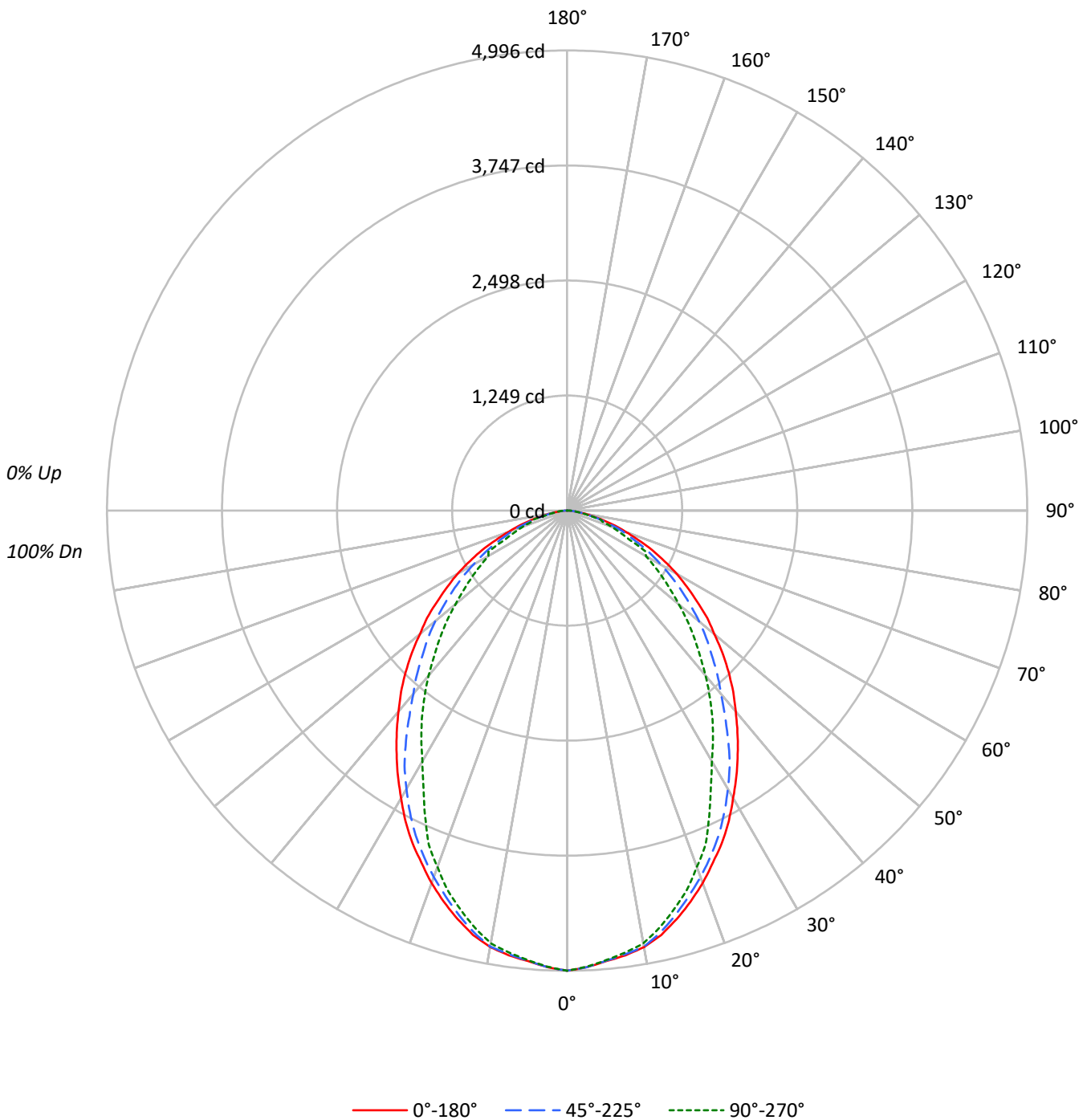
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6722	6722	6722
5°	6631	6623	6615
10°	6573	6565	6518
15°	6396	6332	6243
20°	6161	6062	5896
25°	5908	5779	5419
30°	5599	5420	4882
35°	5303	5009	4516
40°	5001	4565	4109
45°	4715	4220	3715
50°	4365	3917	3313
55°	4038	3550	2967
60°	3699	3171	2658
65°	3255	2777	2354
70°	2681	2431	2000
75°	2132	1862	1952
80°	1432	1343	1253
85°	892	1070	1249

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4715 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	465.1	4.7
10°-20°	1276.3	13.0
20°-30°	1767.0	18.0
30°-40°	1884.1	19.2
40°-50°	1718.9	17.5
50°-60°	1346.6	13.7
60°-70°	877.7	8.9
70°-80°	388.8	4.0
80°-90°	83.5	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°	3508.4	35.8
0°-40°	5392.5	55.0
0°-60°	8458.0	86.2
0°-90°	9808.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9808.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4996	4996	4996	4996	4996	
5°	4909	4904	4904	4898	4898	466
15°	4592	4592	4546	4499	4482	1291
25°	3980	3956	3893	3754	3650	1827
35°	3229	3206	3050	2819	2749	2019
45°	2478	2426	2218	2033	1952	1909
55°	1721	1669	1513	1334	1265	1544
65°	1022	965	872	890	739	1007
75°	410	381	358	341	375	439
85°	58	64	69	75	81	80
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4996.1	4996.1	4996.1	4996.1	4996.1
2.5°	4961.4	4961.4	4961.4	4955.6	4955.6
5°	4909.4	4903.7	4903.7	4897.9	4897.9
7.5°	4869.0	4863.2	4857.4	4851.7	4840.1
10°	4811.2	4811.2	4805.5	4776.6	4770.8
12.5°	4718.8	4713.1	4689.9	4649.5	4638.0
15°	4591.8	4591.8	4545.6	4499.3	4482.0
17.5°	4453.1	4447.4	4389.6	4343.4	4320.3
20°	4303.0	4291.4	4233.7	4158.6	4118.1
22.5°	4135.5	4135.5	4066.2	3968.0	3927.5
25°	3979.5	3956.4	3892.9	3754.3	3650.3
27.5°	3800.5	3765.8	3696.5	3500.1	3378.8
30°	3604.1	3586.8	3488.6	3234.4	3142.0
32.5°	3419.3	3390.4	3286.4	3020.7	2945.7
35°	3228.7	3205.6	3049.6	2818.6	2749.3
37.5°	3038.1	3009.2	2812.8	2628.0	2541.4
40°	2847.5	2812.8	2599.1	2431.6	2339.2
42.5°	2668.4	2622.2	2414.3	2235.2	2131.3
45°	2477.8	2425.8	2217.9	2033.1	1952.2
47.5°	2287.2	2241.0	2050.4	1859.8	1767.4
50°	2085.1	2044.6	1871.4	1680.8	1582.6
52.5°	1917.6	1854.0	1686.5	1495.9	1415.1
55°	1721.2	1669.2	1513.3	1334.2	1264.9
57.5°	1542.1	1490.2	1345.8	1178.3	1120.5
60°	1374.6	1299.6	1178.3	1033.9	987.7
62.5°	1189.8	1132.1	1028.1	906.8	964.6
65°	1022.3	964.6	872.1	889.5	739.3
67.5°	837.5	808.6	727.8	646.9	623.8
70°	681.5	646.9	618.0	531.4	508.3
72.5°	542.9	508.3	467.8	421.6	404.3
75°	410.1	381.2	358.1	340.8	375.4
77.5°	283.0	271.5	254.1	236.8	231.0
80°	184.8	179.0	173.3	167.5	161.7
82.5°	109.7	109.7	109.7	109.7	109.7
85°	57.8	63.5	69.3	75.1	80.9
87.5°	34.7	34.7	40.4	46.2	52.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)