

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: P563876

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

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563876
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-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: 9471.0 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

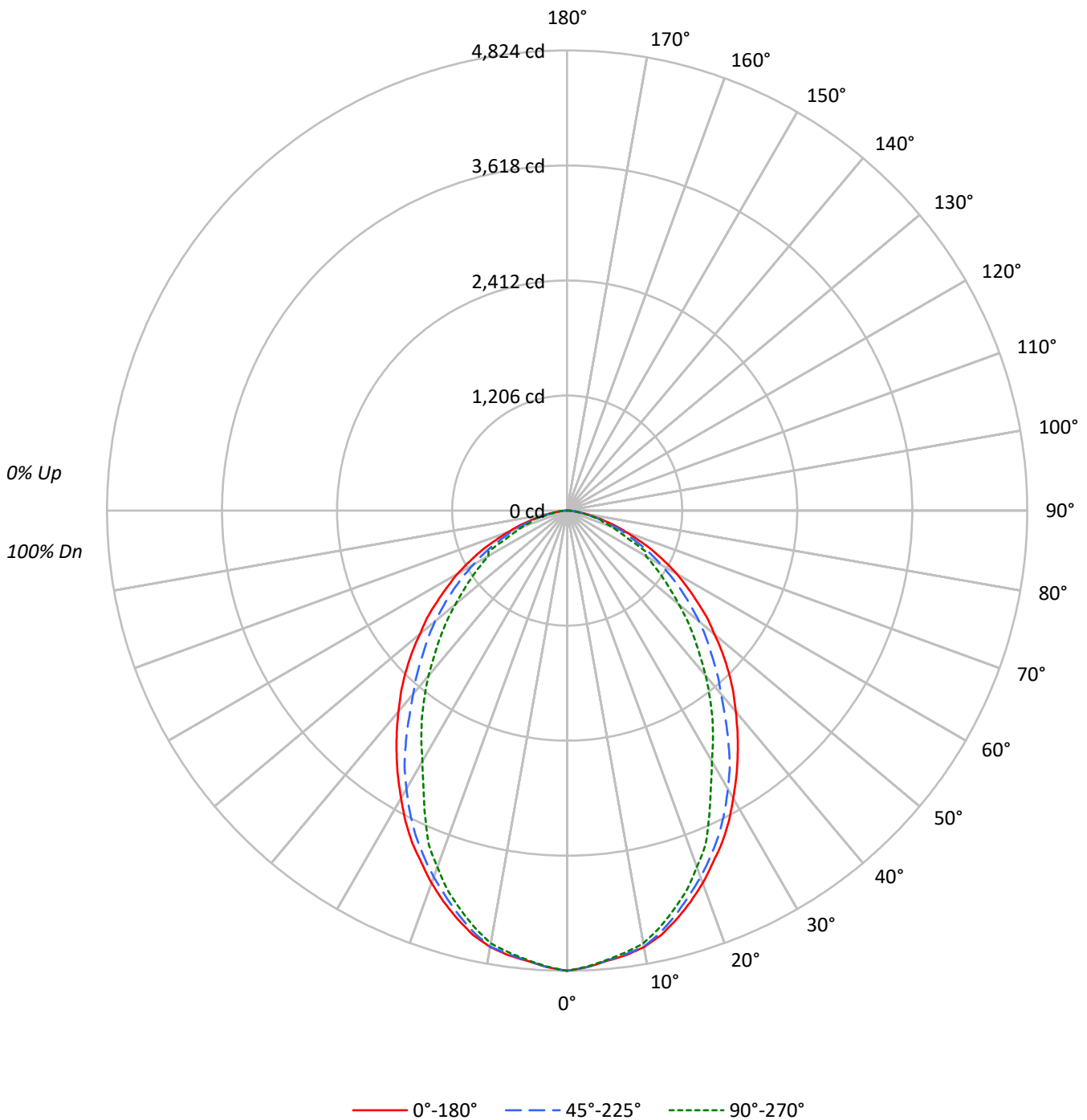
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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																												
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°	6491	6491	6491
5°	6403	6395	6388
10°	6347	6340	6294
15°	6176	6114	6029
20°	5949	5854	5694
25°	5705	5581	5233
30°	5407	5234	4714
35°	5121	4837	4361
40°	4829	4408	3967
45°	4553	4075	3587
50°	4214	3783	3199
55°	3899	3428	2865
60°	3572	3062	2566
65°	3143	2681	2273
70°	2589	2348	1931
75°	2059	1798	1884
80°	1383	1296	1210
85°	861	1033	1206

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4553 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	449.1	4.7
10°-20°	1232.5	13.0
20°-30°	1706.3	18.0
30°-40°	1819.4	19.2
40°-50°	1659.8	17.5
50°-60°	1300.3	13.7
60°-70°	847.5	8.9
70°-80°	375.5	4.0
80°-90°	80.6	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°	3387.9	35.8
0°-40°	5207.2	55.0
0°-60°	8167.4	86.2
0°-90°	9471.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9471.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4824	4824	4824	4824	4824	
5°	4741	4735	4735	4730	4730	450
15°	4434	4434	4389	4345	4328	1247
25°	3843	3820	3759	3625	3525	1764
35°	3118	3095	2945	2722	2655	1949
45°	2393	2342	2142	1963	1885	1843
55°	1662	1612	1461	1288	1221	1491
65°	987	931	842	859	714	973
75°	396	368	346	329	362	424
85°	56	61	67	72	78	77
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4824.4	4824.4	4824.4	4824.4	4824.4
2.5°	4790.9	4790.9	4790.9	4785.4	4785.4
5°	4740.7	4735.2	4735.2	4729.6	4729.6
7.5°	4701.7	4696.1	4690.5	4685.0	4673.8
10°	4645.9	4645.9	4640.3	4612.5	4606.9
12.5°	4556.7	4551.1	4528.8	4489.8	4478.6
15°	4434.0	4434.0	4389.4	4344.7	4328.0
17.5°	4300.1	4294.6	4238.8	4194.2	4171.9
20°	4155.1	4144.0	4088.2	4015.7	3976.6
22.5°	3993.4	3993.4	3926.4	3831.6	3792.6
25°	3842.8	3820.5	3759.1	3625.3	3524.9
27.5°	3669.9	3636.4	3569.5	3379.9	3262.7
30°	3480.3	3463.5	3368.7	3123.3	3034.1
32.5°	3301.8	3273.9	3173.5	2916.9	2844.4
35°	3117.7	3095.4	2944.8	2721.7	2654.8
37.5°	2933.7	2905.8	2716.2	2537.7	2454.0
40°	2749.6	2716.2	2509.8	2348.1	2258.8
42.5°	2576.7	2532.1	2331.3	2158.4	2058.0
45°	2392.7	2342.5	2141.7	1963.2	1885.1
47.5°	2208.6	2164.0	1980.0	1795.9	1706.7
50°	2013.4	1974.4	1807.1	1623.0	1528.2
52.5°	1851.7	1790.3	1628.6	1444.5	1366.4
55°	1662.0	1611.9	1461.3	1288.4	1221.4
57.5°	1489.2	1439.0	1299.5	1137.8	1082.0
60°	1327.4	1254.9	1137.8	998.3	953.7
62.5°	1148.9	1093.2	992.8	875.6	931.4
65°	987.2	931.4	842.2	858.9	713.9
67.5°	808.7	780.8	702.7	624.7	602.4
70°	658.1	624.7	596.8	513.1	490.8
72.5°	524.3	490.8	451.8	407.1	390.4
75°	396.0	368.1	345.8	329.1	362.5
77.5°	273.3	262.1	245.4	228.7	223.1
80°	178.5	172.9	167.3	161.7	156.2
82.5°	106.0	106.0	106.0	106.0	106.0
85°	55.8	61.4	66.9	72.5	78.1
87.5°	33.5	33.5	39.0	44.6	50.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)