

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: P563946

Luminaire Tested: FSR-24-4-LD4-4LO-40-UNV-93-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563946
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-40-UNV-93-94-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9933.9 lumens
Efficiency: N/A
Efficacy: 106.1 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

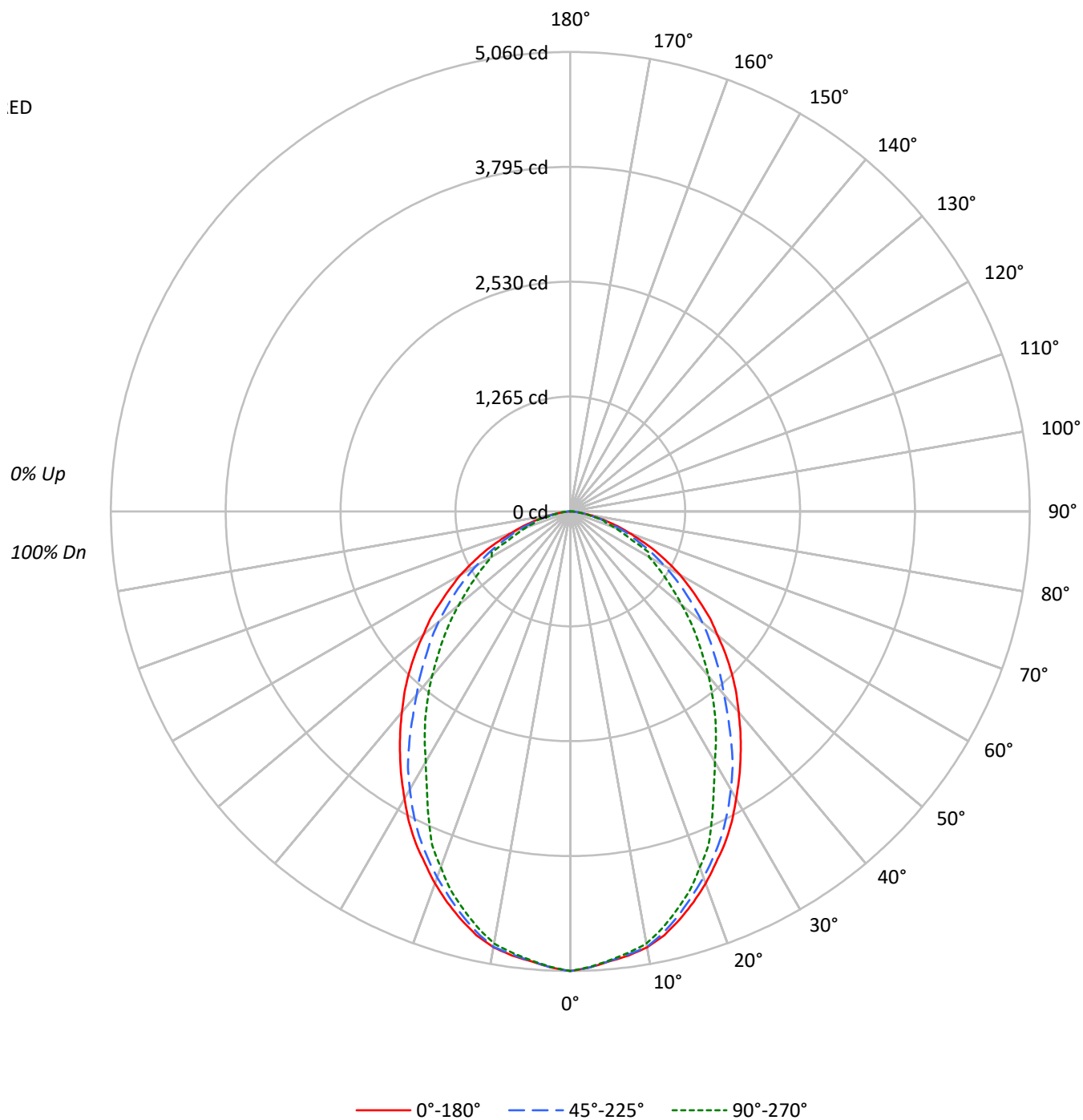
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	110	106	102	99	108	104	100	97	100	97	94		96	94	91		92
2	101	94	88	83	99	92	87	82	89	84	80		86	82	78		83
3	93	84	77	71	91	82	76	70	79	74	69		77	72	68		74
4	86	75	67	61	84	74	66	61	72	65	60		69	64	59		67
5	80	68	60	54	78	67	59	53	65	58	53		63	57	52		61
6	74	62	53	48	72	61	53	47	59	52	47		57	51	47		56
7	69	56	48	43	67	56	48	42	54	47	42		53	46	42		51
8	65	52	44	38	63	51	44	38	50	43	38		49	42	38		48
9	61	48	40	35	59	47	40	35	46	39	35		45	39	34		44
10	57	44	37	32	56	44	37	32	43	36	32		42	36	32		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6808	6808	6808
5°	6716	6708	6700
10°	6658	6650	6602
15°	6478	6413	6323
20°	6240	6140	5972
25°	5984	5854	5489
30°	5671	5490	4944
35°	5371	5073	4574
40°	5065	4624	4161
45°	4775	4274	3762
50°	4420	3967	3355
55°	4089	3595	3005
60°	3747	3211	2692
65°	3296	2812	2384
70°	2716	2462	2025
75°	2159	1886	1976
80°	1450	1360	1269
85°	903	1084	1264

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4775 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	471.0	4.7
10°-20°	1292.7	13.0
20°-30°	1789.7	18.0
30°-40°	1908.3	19.2
40°-50°	1741.0	17.5
50°-60°	1363.9	13.7
60°-70°	888.9	8.9
70°-80°	393.8	4.0
80°-90°	84.5	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°	3553.5	35.8
0°-40°	5461.8	55.0
0°-60°	8566.6	86.2
0°-90°	9933.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9933.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5060	5060	5060	5060	5060	
5°	4972	4967	4967	4961	4961	472
15°	4651	4651	4604	4557	4540	1307
25°	4031	4007	3943	3802	3697	1850
35°	3270	3247	3089	2855	2785	2044
45°	2510	2457	2246	2059	1977	1933
55°	1743	1691	1533	1351	1281	1564
65°	1035	977	883	901	749	1020
75°	415	386	363	345	380	445
85°	58	64	70	76	82	81
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5060.2	5060.2	5060.2	5060.2	5060.2
2.5°	5025.1	5025.1	5025.1	5019.3	5019.3
5°	4972.5	4966.6	4966.6	4960.8	4960.8
7.5°	4931.5	4925.7	4919.8	4914.0	4902.3
10°	4873.0	4873.0	4867.2	4837.9	4832.1
12.5°	4779.4	4773.6	4750.2	4709.2	4697.5
15°	4650.7	4650.7	4603.9	4557.1	4539.6
17.5°	4510.3	4504.5	4446.0	4399.2	4375.8
20°	4358.2	4346.5	4288.0	4212.0	4171.0
22.5°	4188.6	4188.6	4118.4	4018.9	3978.0
25°	4030.6	4007.2	3942.9	3802.5	3697.2
27.5°	3849.3	3814.2	3744.0	3545.1	3422.2
30°	3650.4	3632.8	3533.4	3276.0	3182.4
32.5°	3463.2	3433.9	3328.6	3059.5	2983.5
35°	3270.1	3246.7	3088.8	2854.8	2784.6
37.5°	3077.1	3047.8	2848.9	2661.7	2574.0
40°	2884.0	2848.9	2632.5	2462.8	2369.2
42.5°	2702.7	2655.9	2445.3	2263.9	2158.6
45°	2509.6	2457.0	2246.4	2059.2	1977.3
47.5°	2316.6	2269.8	2076.7	1883.7	1790.1
50°	2111.8	2070.9	1895.4	1702.3	1602.9
52.5°	1942.2	1877.8	1708.2	1515.1	1433.2
55°	1743.3	1690.6	1532.7	1351.3	1281.1
57.5°	1561.9	1509.3	1363.0	1193.4	1134.9
60°	1392.3	1316.2	1193.4	1047.1	1000.3
62.5°	1205.1	1146.6	1041.3	918.4	976.9
65°	1035.4	976.9	883.3	900.9	748.8
67.5°	848.2	819.0	737.1	655.2	631.8
70°	690.3	655.2	625.9	538.2	514.8
72.5°	549.9	514.8	473.8	427.0	409.5
75°	415.3	386.1	362.7	345.1	380.2
77.5°	286.6	274.9	257.4	239.8	234.0
80°	187.2	181.3	175.5	169.6	163.8
82.5°	111.1	111.1	111.1	111.1	111.1
85°	58.5	64.3	70.2	76.0	81.9
87.5°	35.1	35.1	40.9	46.8	52.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)