

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: P563211

Luminaire Tested: FSR-24-4-LD4-3HI-50-UNV-81-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563211
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-LD4-3HI-50-UNV-81-94-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14044.0 lumens
Efficiency: N/A
Efficacy: 108.4 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

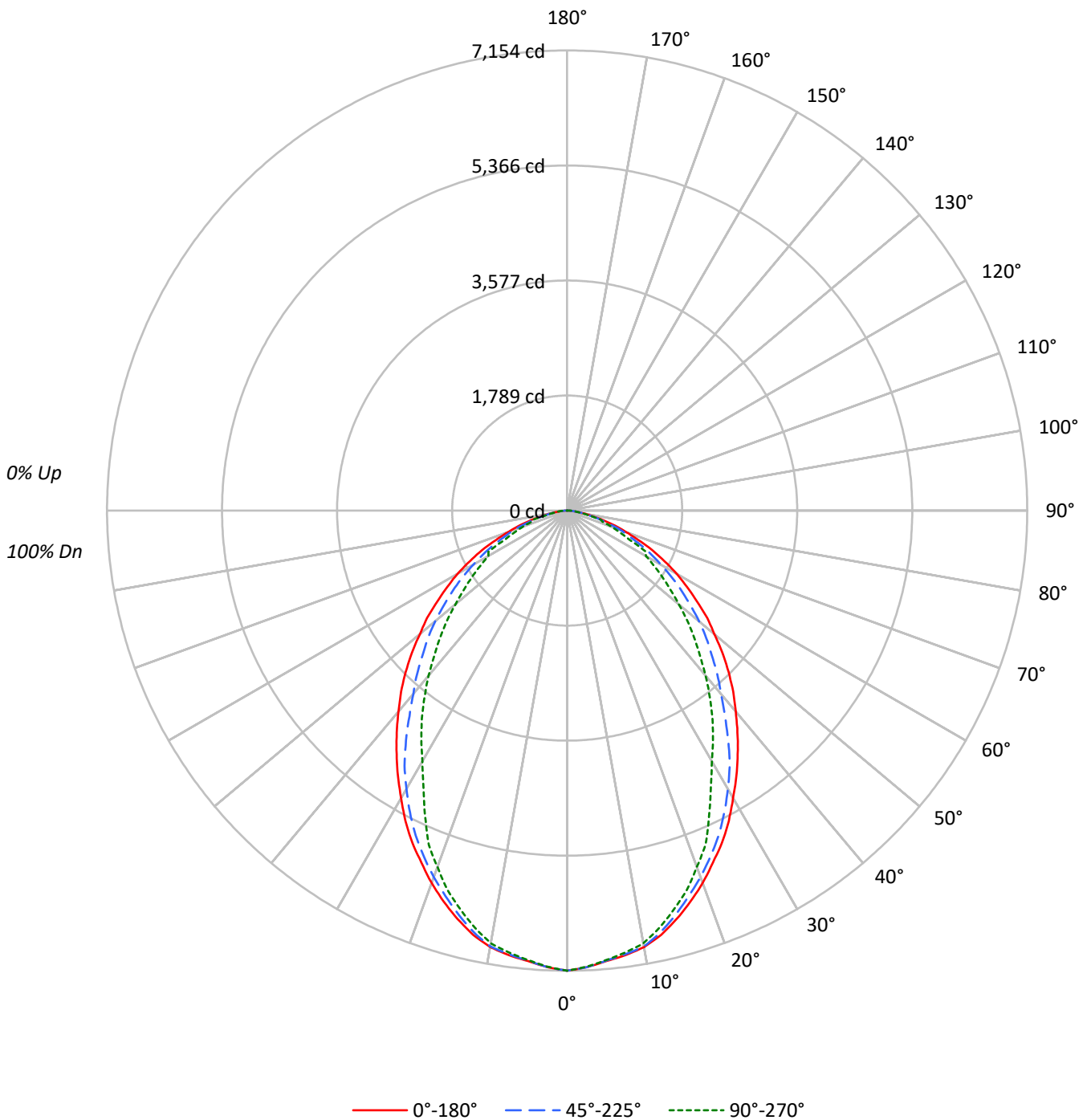
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	9625	9625	9625
5°	9495	9483	9472
10°	9412	9401	9333
15°	9159	9066	8940
20°	8822	8680	8443
25°	8459	8275	7760
30°	8018	7761	6990
35°	7594	7172	6466
40°	7161	6537	5883
45°	6751	6043	5319
50°	6249	5609	4743
55°	5781	5083	4249
60°	5297	4540	3806
65°	4660	3976	3370
70°	3839	3481	2863
75°	3053	2666	2795
80°	2051	1922	1795
85°	1277	1531	1788

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6751 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	665.9	4.7
10°-20°	1827.6	13.0
20°-30°	2530.2	18.0
30°-40°	2697.9	19.2
40°-50°	2461.3	17.5
50°-60°	1928.2	13.7
60°-70°	1256.7	8.9
70°-80°	556.8	4.0
80°-90°	119.5	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°	5023.6	35.8
0°-40°	7721.5	55.0
0°-60°	12111.0	86.2
0°-90°	14044.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14044.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7154	7154	7154	7154	7154	
5°	7030	7022	7022	7013	7013	667
15°	6575	6575	6509	6443	6418	1848
25°	5698	5665	5574	5376	5227	2616
35°	4623	4590	4367	4036	3937	2890
45°	3548	3474	3176	2911	2795	2733
55°	2465	2390	2167	1910	1811	2211
65°	1464	1381	1249	1274	1059	1443
75°	587	546	513	488	538	629
85°	83	91	99	108	116	115
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7153.8	7153.8	7153.8	7153.8	7153.8
2.5°	7104.2	7104.2	7104.2	7095.9	7095.9
5°	7029.8	7021.5	7021.5	7013.2	7013.2
7.5°	6971.9	6963.6	6955.3	6947.1	6930.5
10°	6889.2	6889.2	6880.9	6839.6	6831.3
12.5°	6756.9	6748.6	6715.5	6657.6	6641.1
15°	6574.9	6574.9	6508.7	6442.6	6417.8
17.5°	6376.4	6368.1	6285.4	6219.3	6186.2
20°	6161.4	6144.8	6062.1	5954.6	5896.7
22.5°	5921.5	5921.5	5822.3	5681.7	5623.8
25°	5698.2	5665.2	5574.2	5375.7	5226.8
27.5°	5441.9	5392.2	5293.0	5011.8	4838.1
30°	5160.7	5135.9	4995.3	4631.4	4499.1
32.5°	4896.0	4854.7	4705.8	4325.4	4217.9
35°	4623.1	4590.0	4366.7	4035.9	3936.7
37.5°	4350.2	4308.8	4027.6	3763.0	3638.9
40°	4077.3	4027.6	3721.6	3481.8	3349.5
42.5°	3820.9	3754.7	3457.0	3200.6	3051.7
45°	3548.0	3473.5	3175.8	2911.2	2795.4
47.5°	3275.0	3208.9	2936.0	2663.0	2530.7
50°	2985.6	2927.7	2679.6	2406.7	2266.1
52.5°	2745.7	2654.8	2414.9	2142.0	2026.2
55°	2464.6	2390.1	2166.8	1910.4	1811.2
57.5°	2208.2	2133.7	1927.0	1687.1	1604.4
60°	1968.3	1860.8	1687.1	1480.4	1414.2
62.5°	1703.7	1621.0	1472.1	1298.4	1381.1
65°	1463.8	1381.1	1248.8	1273.6	1058.6
67.5°	1199.2	1157.8	1042.1	926.3	893.2
70°	975.9	926.3	884.9	760.9	727.8
72.5°	777.4	727.8	669.9	603.7	578.9
75°	587.2	545.8	512.8	487.9	537.6
77.5°	405.2	388.7	363.9	339.1	330.8
80°	264.7	256.4	248.1	239.8	231.6
82.5°	157.1	157.1	157.1	157.1	157.1
85°	82.7	91.0	99.2	107.5	115.8
87.5°	49.6	49.6	57.9	66.2	74.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)