

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: P564103

Luminaire Tested: FSR-24-4-LD4-4STD-40-UNV-81-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564103
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-LD4-4STD-40-UNV-81-87-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14043.0 lumens
Efficiency: N/A
Efficacy: 105.4 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

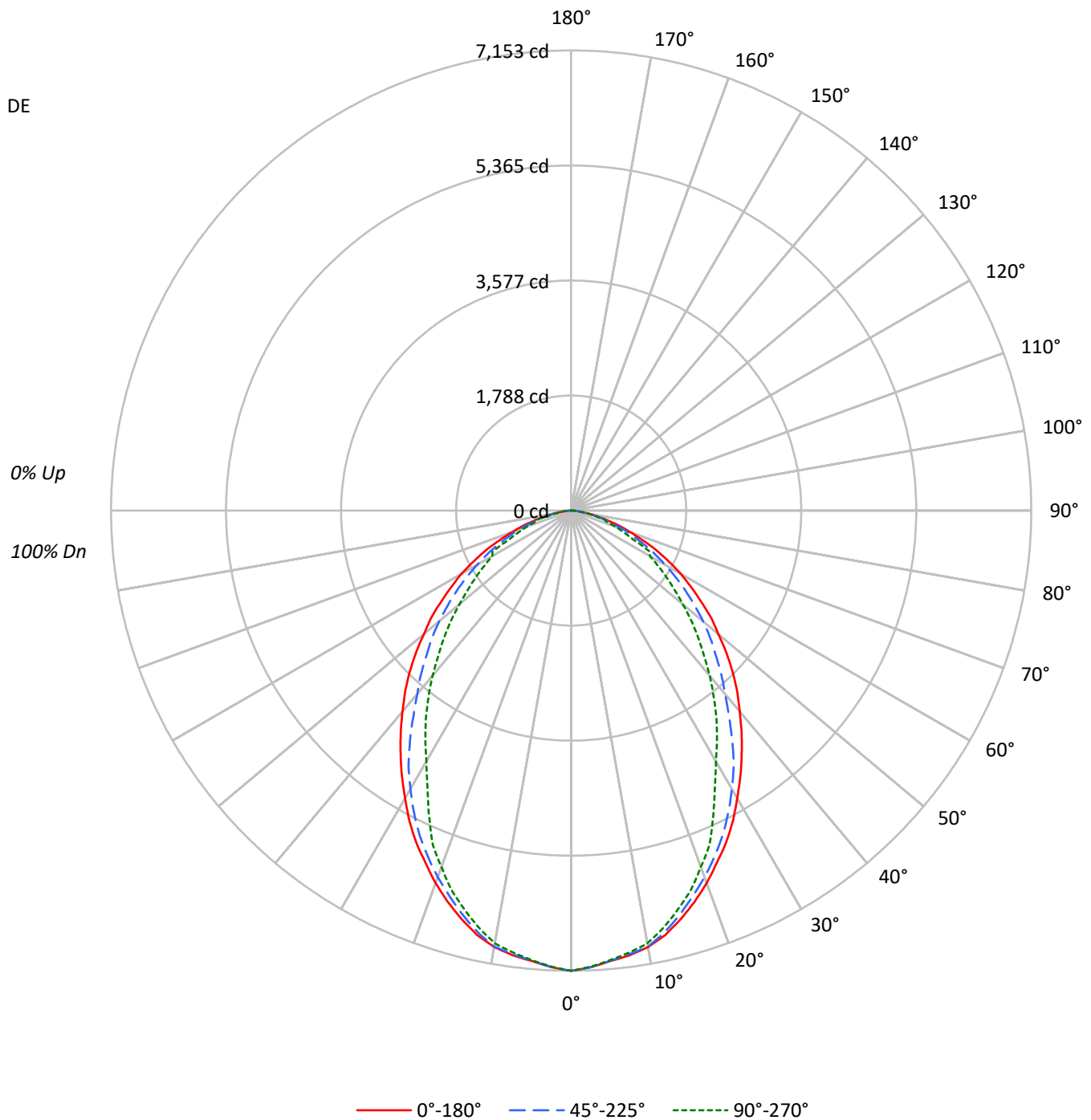
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	9625	9625	9625
5°	9494	9483	9472
10°	9412	9400	9333
15°	9158	9066	8939
20°	8821	8679	8443
25°	8459	8275	7759
30°	8017	7760	6989
35°	7593	7172	6466
40°	7161	6536	5883
45°	6751	6043	5319
50°	6249	5609	4743
55°	5781	5083	4248
60°	5296	4540	3805
65°	4660	3975	3370
70°	3839	3481	2863
75°	3053	2665	2794
80°	2050	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°	1827.4	13.0
20°-30°	2530.0	18.0
30°-40°	2697.7	19.2
40°-50°	2461.1	17.5
50°-60°	1928.1	13.7
60°-70°	1256.6	8.9
70°-80°	556.7	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°	5023.3	35.8
0°-40°	7721.0	55.0
0°-60°	12110.1	86.2
0°-90°	14043.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14043.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7153	7153	7153	7153	7153	
5°	7029	7021	7021	7013	7013	667
15°	6574	6574	6508	6442	6417	1848
25°	5698	5665	5574	5375	5226	2616
35°	4623	4590	4366	4036	3936	2890
45°	3548	3473	3176	2911	2795	2733
55°	2464	2390	2167	1910	1811	2210
65°	1464	1381	1249	1274	1058	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°	7153.3	7153.3	7153.3	7153.3	7153.3
2.5°	7103.7	7103.7	7103.7	7095.4	7095.4
5°	7029.3	7021.0	7021.0	7012.7	7012.7
7.5°	6971.4	6963.1	6954.8	6946.6	6930.0
10°	6888.7	6888.7	6880.4	6839.1	6830.8
12.5°	6756.4	6748.1	6715.0	6657.1	6640.6
15°	6574.4	6574.4	6508.3	6442.1	6417.3
17.5°	6376.0	6367.7	6285.0	6218.8	6185.8
20°	6160.9	6144.4	6061.7	5954.2	5896.3
22.5°	5921.1	5921.1	5821.9	5681.3	5623.4
25°	5697.8	5664.8	5573.8	5375.3	5226.5
27.5°	5441.5	5391.9	5292.6	5011.5	4837.8
30°	5160.3	5135.5	4994.9	4631.0	4498.7
32.5°	4895.7	4854.3	4705.5	4325.1	4217.6
35°	4622.8	4589.7	4366.4	4035.6	3936.4
37.5°	4349.9	4308.5	4027.4	3762.7	3638.7
40°	4077.0	4027.4	3721.4	3481.6	3349.2
42.5°	3820.6	3754.5	3456.7	3200.4	3051.5
45°	3547.7	3473.3	3175.6	2910.9	2795.2
47.5°	3274.8	3208.7	2935.8	2662.9	2530.5
50°	2985.4	2927.5	2679.4	2406.5	2265.9
52.5°	2745.6	2654.6	2414.8	2141.9	2026.1
55°	2464.4	2390.0	2166.7	1910.3	1811.1
57.5°	2208.0	2133.6	1926.8	1687.0	1604.3
60°	1968.2	1860.7	1687.0	1480.3	1414.1
62.5°	1703.6	1620.9	1472.0	1298.3	1381.0
65°	1463.7	1381.0	1248.7	1273.5	1058.5
67.5°	1199.1	1157.8	1042.0	926.2	893.1
70°	975.8	926.2	884.9	760.8	727.7
72.5°	777.4	727.7	669.8	603.7	578.9
75°	587.2	545.8	512.7	487.9	537.5
77.5°	405.2	388.7	363.9	339.1	330.8
80°	264.6	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)