

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: P564101

Luminaire Tested: FSR-24-4-LD4-4STD-40-UNV-81-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564101
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-81-86-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14514.0 lumens
Efficiency: N/A
Efficacy: 109.0 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

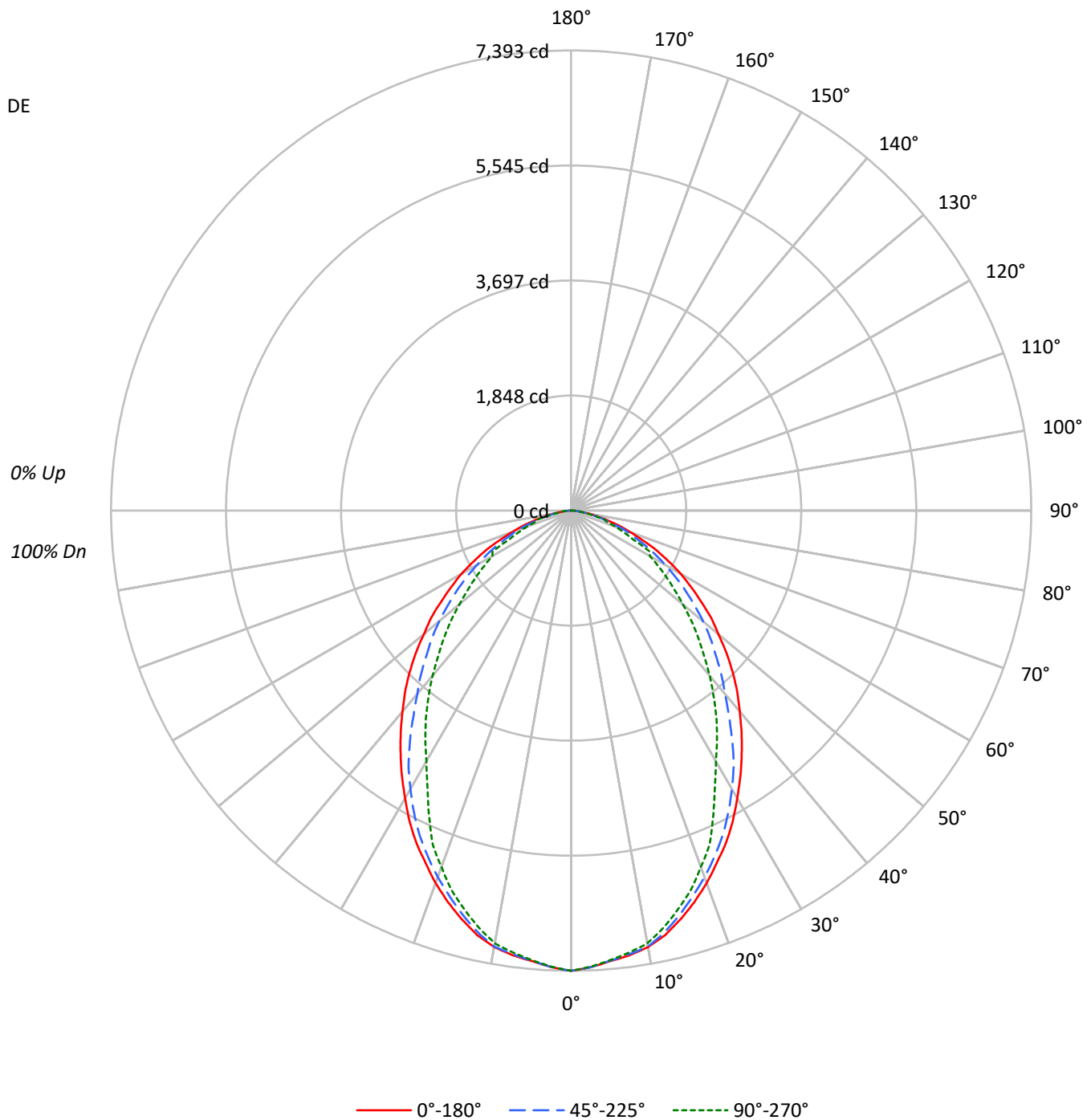
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	9947	9947	9947
5°	9812	9801	9789
10°	9727	9716	9646
15°	9465	9370	9239
20°	9117	8970	8726
25°	8743	8552	8019
30°	8286	8020	7224
35°	7848	7413	6683
40°	7401	6756	6080
45°	6977	6245	5497
50°	6459	5797	4902
55°	5975	5253	4391
60°	5474	4692	3933
65°	4816	4109	3483
70°	3968	3598	2959
75°	3154	2755	2888
80°	2119	1987	1854
85°	1320	1584	1848

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6977 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	688.2	4.7
10°-20°	1888.7	13.0
20°-30°	2614.8	18.0
30°-40°	2788.2	19.2
40°-50°	2543.6	17.5
50°-60°	1992.7	13.7
60°-70°	1298.8	8.9
70°-80°	575.4	4.0
80°-90°	123.5	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°	5191.8	35.8
0°-40°	7979.9	55.0
0°-60°	12516.3	86.2
0°-90°	14514.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14514.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7393	7393	7393	7393	7393	
5°	7265	7256	7256	7248	7248	690
15°	6795	6795	6727	6658	6632	1910
25°	5889	5855	5761	5556	5402	2704
35°	4778	4744	4513	4171	4068	2987
45°	3667	3590	3282	3009	2889	2824
55°	2547	2470	2239	1974	1872	2284
65°	1513	1427	1291	1316	1094	1491
75°	607	564	530	504	556	650
85°	86	94	103	111	120	119
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7393.2	7393.2	7393.2	7393.2	7393.2
2.5°	7342.0	7342.0	7342.0	7333.4	7333.4
5°	7265.0	7256.5	7256.5	7247.9	7247.9
7.5°	7205.2	7196.7	7188.1	7179.6	7162.5
10°	7119.7	7119.7	7111.2	7068.4	7059.9
12.5°	6983.0	6974.4	6940.2	6880.4	6863.3
15°	6794.9	6794.9	6726.6	6658.2	6632.5
17.5°	6589.8	6581.3	6495.8	6427.4	6393.2
20°	6367.6	6350.5	6265.0	6153.9	6094.1
22.5°	6119.7	6119.7	6017.2	5871.9	5812.0
25°	5888.9	5854.8	5760.7	5555.6	5401.8
27.5°	5624.0	5572.7	5470.1	5179.5	5000.1
30°	5333.4	5307.7	5162.4	4786.4	4649.6
32.5°	5059.9	5017.1	4863.3	4470.1	4359.0
35°	4777.8	4743.6	4512.9	4171.0	4068.4
37.5°	4495.8	4453.0	4162.4	3888.9	3760.7
40°	4213.7	4162.4	3846.2	3598.3	3461.6
42.5°	3948.8	3880.4	3572.7	3307.7	3153.9
45°	3666.7	3589.8	3282.1	3008.6	2888.9
47.5°	3384.6	3316.3	3034.2	2752.2	2615.4
50°	3085.5	3025.7	2769.3	2487.2	2341.9
52.5°	2837.6	2743.6	2495.8	2213.7	2094.0
55°	2547.0	2470.1	2239.3	1974.4	1871.8
57.5°	2282.1	2205.2	1991.5	1743.6	1658.1
60°	2034.2	1923.1	1743.6	1529.9	1461.6
62.5°	1760.7	1675.2	1521.4	1341.9	1427.4
65°	1512.8	1427.4	1290.6	1316.3	1094.0
67.5°	1239.3	1196.6	1076.9	957.3	923.1
70°	1008.6	957.3	914.5	786.3	752.1
72.5°	803.4	752.1	692.3	623.9	598.3
75°	606.8	564.1	529.9	504.3	555.6
77.5°	418.8	401.7	376.1	350.4	341.9
80°	273.5	265.0	256.4	247.9	239.3
82.5°	162.4	162.4	162.4	162.4	162.4
85°	85.5	94.0	102.6	111.1	119.7
87.5°	51.3	51.3	59.8	68.4	76.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)