

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: P590237

Luminaire Tested: FSR-24-2-LD4-2LO-35-UNV-81-84-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590237
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-2LO-35-UNV-81-84-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

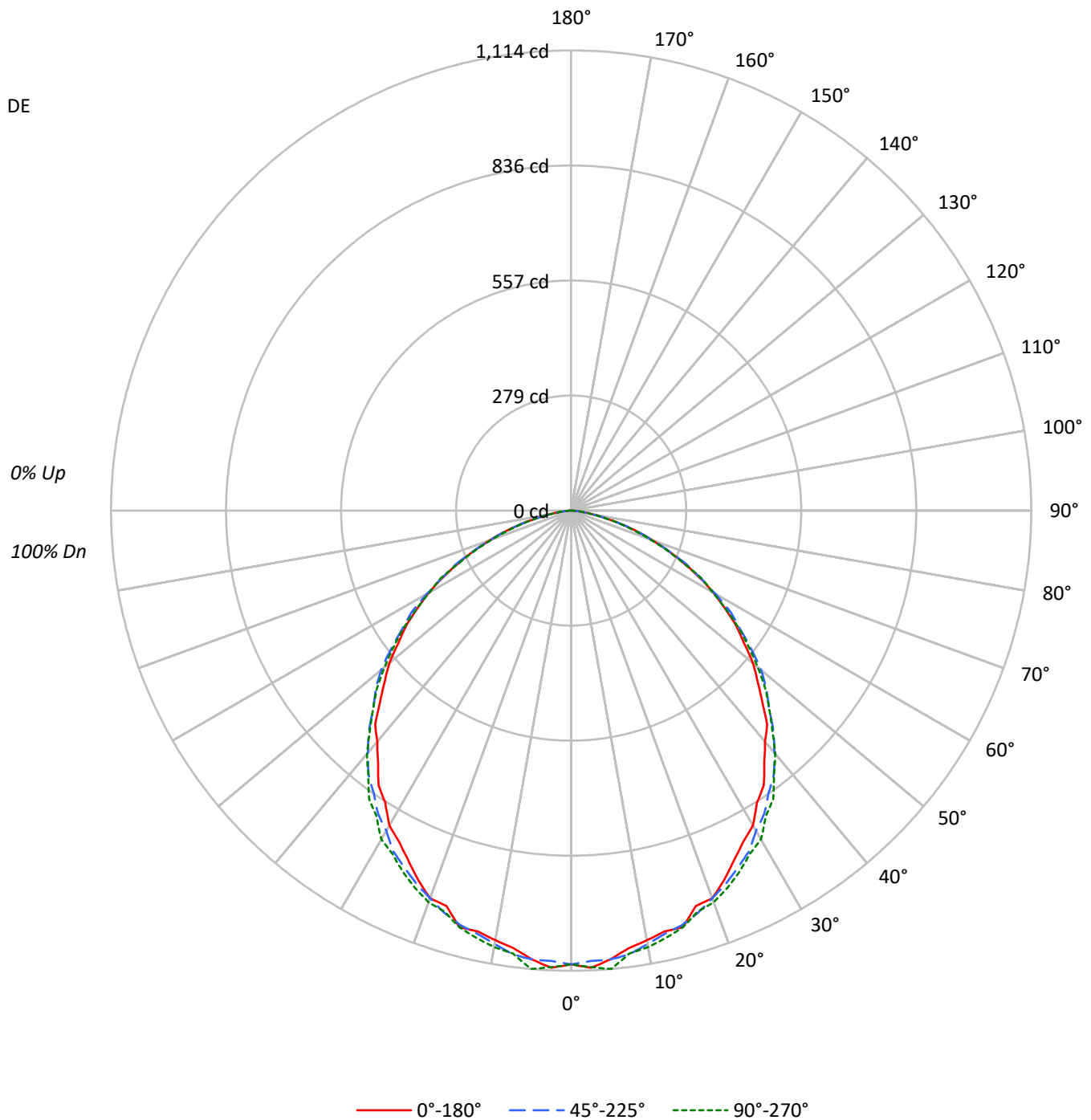
Lumens per Lamp: N/A
Luminaire Lumens: 2768.0 lumens
Efficiency: N/A
Efficacy: 118.3 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2956	2956	2956
5°	2946	2947	3009
10°	2886	2911	2932
15°	2909	2893	2909
20°	2860	2860	2890
25°	2772	2832	2863
30°	2734	2782	2856
35°	2669	2739	2801
40°	2565	2689	2701
45°	2488	2576	2580
50°	2406	2515	2467
55°	2293	2337	2320
60°	2144	2165	2126
65°	1911	1961	1898
70°	1640	1646	1600
75°	1299	1295	1246
80°	871	846	814
85°	472	469	438

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 2643 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.3	3.7
10°-20°	292.8	10.6
20°-30°	438.7	15.8
30°-40°	519.9	18.8
40°-50°	520.9	18.8
50°-60°	442.1	16.0
60°-70°	298.1	10.8
70°-80°	131.0	4.7
80°-90°	21.3	0.8
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°	834.8	30.2
0°-40°	1354.7	48.9
0°-60°	2317.7	83.7
0°-90°	2768.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2768.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1098	1098	1098	1098	1098	
5°	1090	1088	1091	1088	1114	103
15°	1044	1032	1038	1044	1044	291
25°	934	939	954	966	964	432
35°	812	815	834	853	852	504
45°	654	666	677	694	678	506
55°	489	485	498	495	495	435
65°	300	296	308	296	298	299
75°	125	122	125	116	120	134
85°	15	15	15	15	14	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1098.3	1098.3	1098.3	1098.3	1098.3
2.5°	1107.8	1099.4	1091.6	1100.7	1106.2
5°	1090.5	1087.9	1090.9	1087.6	1113.9
7.5°	1068.1	1077.9	1083.5	1080.0	1081.5
10°	1056.2	1052.8	1065.4	1074.2	1072.9
12.5°	1043.4	1048.5	1049.2	1058.7	1059.6
15°	1044.1	1032.0	1038.4	1043.8	1044.2
17.5°	1003.5	1016.6	1021.0	1033.3	1018.0
20°	998.6	989.1	998.6	1011.2	1009.2
22.5°	968.1	957.5	977.9	989.1	988.4
25°	933.5	938.6	953.9	966.4	964.4
27.5°	903.2	909.1	930.9	948.1	937.0
30°	879.8	876.8	895.2	910.5	919.0
32.5°	837.9	848.7	870.3	885.4	877.3
35°	812.5	814.9	833.8	853.1	852.5
37.5°	768.2	779.4	805.9	811.3	806.3
40°	730.3	741.5	765.5	771.3	768.9
42.5°	702.4	704.3	724.9	731.6	720.9
45°	653.7	665.9	677.0	694.4	678.0
47.5°	612.3	618.0	641.8	646.5	637.8
50°	574.7	576.7	600.7	594.9	589.2
52.5°	527.5	535.9	549.3	548.2	541.5
55°	488.7	485.4	498.2	494.8	494.6
57.5°	442.0	447.7	458.2	452.8	444.1
60°	398.3	398.5	402.3	396.2	395.1
62.5°	349.7	351.4	352.2	344.7	356.9
65°	300.2	296.2	307.9	296.1	298.1
67.5°	254.7	256.7	255.5	248.2	251.0
70°	208.5	211.0	209.2	200.8	203.3
72.5°	166.2	163.1	165.1	154.6	159.4
75°	124.9	122.4	124.6	115.9	119.8
77.5°	85.1	87.1	85.6	81.0	83.7
80°	56.2	54.6	54.6	51.9	52.5
82.5°	32.8	31.2	30.8	29.9	31.2
85°	15.3	14.9	15.2	14.7	14.2
87.5°	5.5	5.7	5.7	5.4	5.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)