

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: P564049

Luminaire Tested: FSR-24-4-LD4-4STD-35-UNV-82-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564049
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-35-UNV-82-84-EDD
Description: 2X4 FSR TROFFER WITH .187 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: 14517.0 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

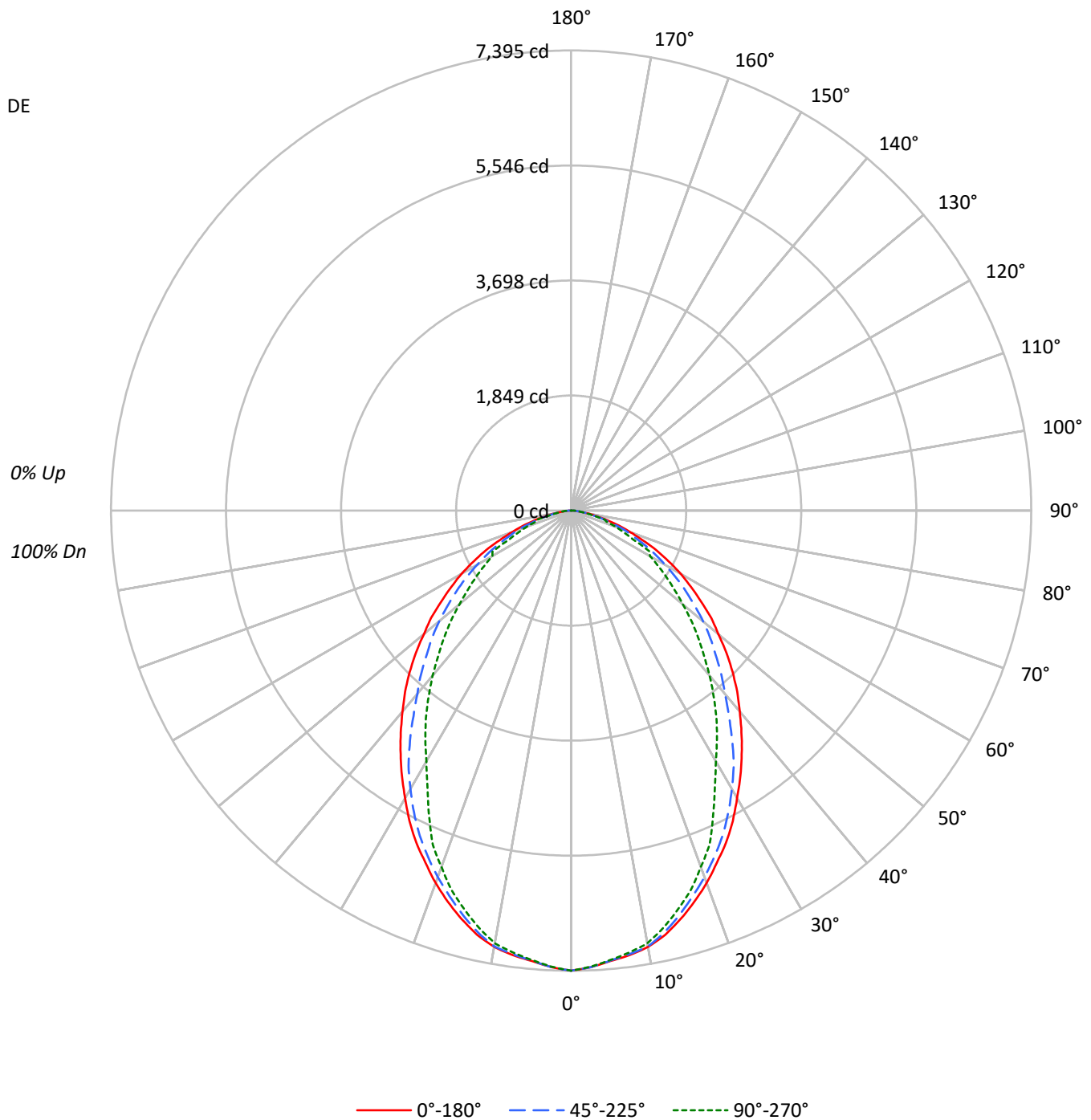
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20																		
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	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°	9950	9950	9950
5°	9814	9803	9791
10°	9729	9718	9648
15°	9467	9372	9241
20°	9119	8972	8727
25°	8744	8554	8021
30°	8288	8022	7225
35°	7849	7414	6684
40°	7403	6757	6081
45°	6979	6247	5498
50°	6460	5798	4903
55°	5976	5254	4392
60°	5475	4693	3934
65°	4817	4110	3484
70°	3969	3598	2960
75°	3156	2755	2889
80°	2120	1987	1855
85°	1320	1584	1848

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6979 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	688.4	4.7
10°-20°	1889.1	13.0
20°-30°	2615.4	18.0
30°-40°	2788.7	19.2
40°-50°	2544.1	17.5
50°-60°	1993.1	13.7
60°-70°	1299.0	8.9
70°-80°	575.5	4.0
80°-90°	123.6	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°	5192.9	35.8
0°-40°	7981.6	55.0
0°-60°	12518.9	86.2
0°-90°	14517.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14517.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7395	7395	7395	7395	7395	
5°	7266	7258	7258	7249	7249	690
15°	6796	6796	6728	6660	6634	1911
25°	5890	5856	5762	5557	5403	2704
35°	4779	4745	4514	4172	4069	2988
45°	3668	3590	3283	3009	2890	2825
55°	2548	2471	2240	1975	1872	2285
65°	1513	1428	1291	1316	1094	1491
75°	607	564	530	504	556	651
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°	7394.8	7394.8	7394.8	7394.8	7394.8
2.5°	7343.5	7343.5	7343.5	7334.9	7334.9
5°	7266.5	7258.0	7258.0	7249.4	7249.4
7.5°	7206.7	7198.1	7189.6	7181.0	7163.9
10°	7121.2	7121.2	7112.7	7069.9	7061.4
12.5°	6984.4	6975.9	6941.7	6881.8	6864.7
15°	6796.3	6796.3	6728.0	6659.6	6633.9
17.5°	6591.2	6582.6	6497.1	6428.7	6394.5
20°	6368.9	6351.8	6266.3	6155.2	6095.3
22.5°	6121.0	6121.0	6018.4	5873.1	5813.2
25°	5890.2	5856.0	5761.9	5556.8	5402.9
27.5°	5625.2	5573.9	5471.3	5180.6	5001.1
30°	5334.5	5308.8	5163.5	4787.4	4650.6
32.5°	5060.9	5018.2	4864.3	4471.1	4359.9
35°	4778.8	4744.6	4513.8	4171.8	4069.3
37.5°	4496.7	4454.0	4163.3	3889.7	3761.5
40°	4214.6	4163.3	3847.0	3599.1	3462.3
42.5°	3949.6	3881.2	3573.4	3308.4	3154.5
45°	3667.5	3590.5	3282.8	3009.2	2889.5
47.5°	3385.3	3317.0	3034.8	2752.7	2616.0
50°	3086.1	3026.3	2769.8	2487.7	2342.4
52.5°	2838.2	2744.2	2496.3	2214.2	2094.5
55°	2547.6	2470.6	2239.8	1974.8	1872.2
57.5°	2282.5	2205.6	1991.9	1744.0	1658.5
60°	2034.6	1923.5	1744.0	1530.2	1461.9
62.5°	1761.1	1675.6	1521.7	1342.2	1427.7
65°	1513.1	1427.7	1290.9	1316.5	1094.3
67.5°	1239.6	1196.8	1077.2	957.5	923.3
70°	1008.8	957.5	914.7	786.5	752.3
72.5°	803.6	752.3	692.5	624.1	598.4
75°	607.0	564.2	530.0	504.4	555.7
77.5°	418.9	401.8	376.1	350.5	342.0
80°	273.6	265.0	256.5	247.9	239.4
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)