

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: P564036

Luminaire Tested: FSR-24-4-LD4-4STD-35-UNV-81-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564036
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-81-86-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12024.0 lumens
Efficiency: N/A
Efficacy: 90.3 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

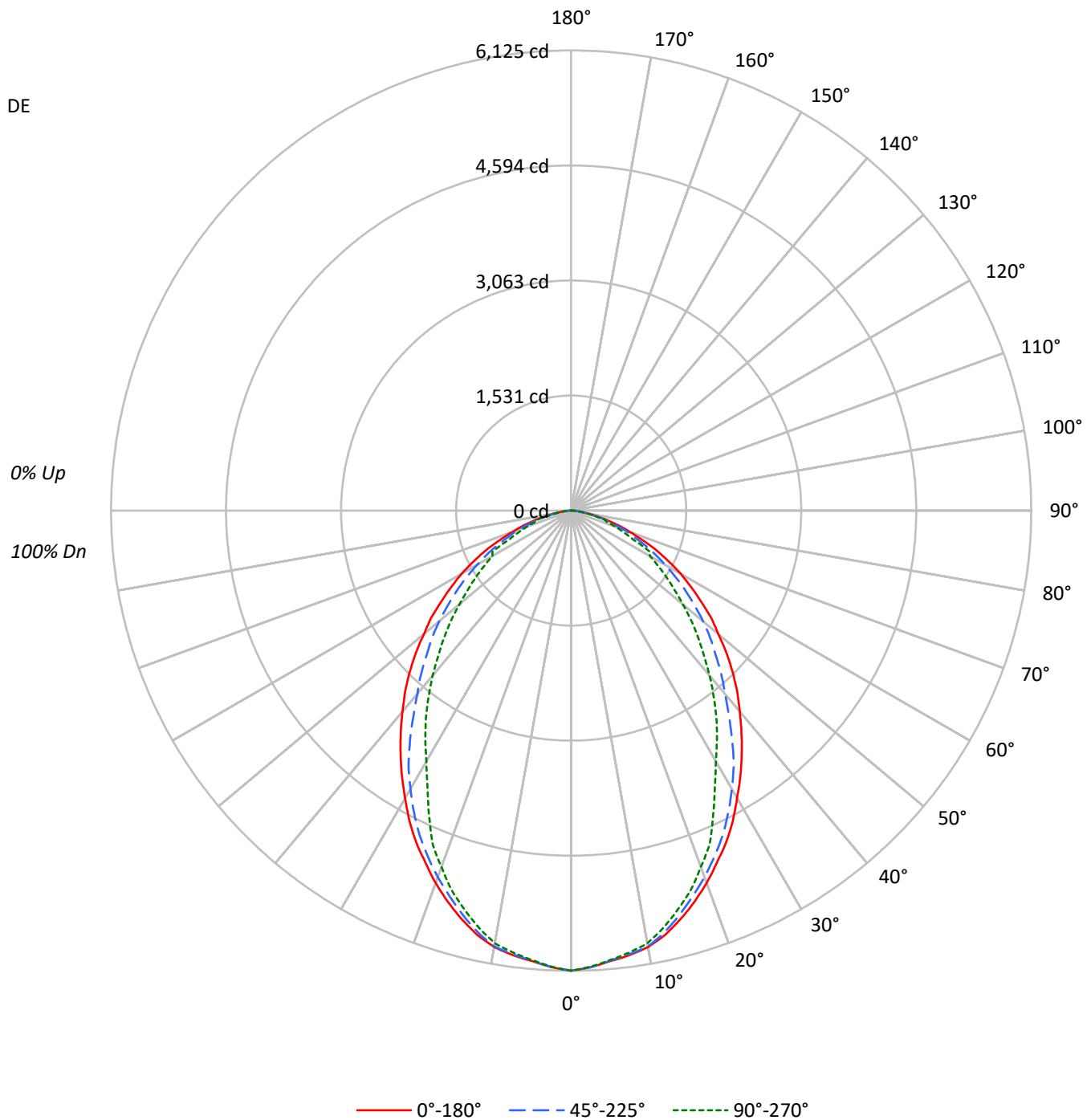
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	8241	8241	8241
5°	8129	8119	8110
10°	8059	8049	7991
15°	7841	7762	7654
20°	7553	7432	7229
25°	7243	7085	6644
30°	6865	6645	5984
35°	6501	6141	5536
40°	6131	5596	5037
45°	5780	5174	4554
50°	5351	4802	4061
55°	4950	4352	3638
60°	4535	3887	3258
65°	3990	3404	2885
70°	3287	2980	2451
75°	2613	2282	2392
80°	1756	1646	1537
85°	1093	1312	1530

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5780 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	570.1	4.7
10°-20°	1564.7	13.0
20°-30°	2166.2	18.0
30°-40°	2309.8	19.2
40°-50°	2107.2	17.5
50°-60°	1650.9	13.7
60°-70°	1075.9	8.9
70°-80°	476.7	4.0
80°-90°	102.3	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°	4301.1	35.8
0°-40°	6610.9	55.0
0°-60°	10369.0	86.2
0°-90°	12024.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12024.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6125	6125	6125	6125	6125	
5°	6019	6012	6012	6004	6004	571
15°	5629	5629	5573	5516	5495	1583
25°	4879	4850	4772	4602	4475	2240
35°	3958	3930	3739	3455	3370	2475
45°	3038	2974	2719	2492	2393	2340
55°	2110	2046	1855	1636	1551	1893
65°	1253	1182	1069	1090	906	1235
75°	503	467	439	418	460	539
85°	71	78	85	92	99	98
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6124.9	6124.9	6124.9	6124.9	6124.9
2.5°	6082.4	6082.4	6082.4	6075.3	6075.3
5°	6018.7	6011.6	6011.6	6004.5	6004.5
7.5°	5969.1	5962.0	5954.9	5947.8	5933.7
10°	5898.3	5898.3	5891.2	5855.8	5848.7
12.5°	5785.0	5777.9	5749.6	5700.0	5685.9
15°	5629.2	5629.2	5572.6	5515.9	5494.7
17.5°	5459.3	5452.2	5381.4	5324.7	5296.4
20°	5275.2	5261.0	5190.2	5098.2	5048.6
22.5°	5069.8	5069.8	4984.9	4864.5	4814.9
25°	4878.6	4850.3	4772.4	4602.5	4475.0
27.5°	4659.1	4616.7	4531.7	4290.9	4142.2
30°	4418.4	4397.2	4276.8	3965.2	3851.9
32.5°	4191.8	4156.4	4029.0	3703.2	3611.2
35°	3958.1	3929.8	3738.6	3455.4	3370.4
37.5°	3724.5	3689.1	3448.3	3221.7	3115.5
40°	3490.8	3448.3	3186.3	2981.0	2867.7
42.5°	3271.3	3214.7	2959.8	2740.3	2612.8
45°	3037.6	2973.9	2719.0	2492.4	2393.3
47.5°	2804.0	2747.3	2513.7	2280.0	2166.7
50°	2556.2	2506.6	2294.2	2060.5	1940.1
52.5°	2350.8	2272.9	2067.6	1833.9	1734.8
55°	2110.1	2046.3	1855.2	1635.7	1550.7
57.5°	1890.6	1826.8	1649.8	1444.5	1373.7
60°	1685.2	1593.2	1444.5	1267.5	1210.8
62.5°	1458.6	1387.8	1260.4	1111.7	1182.5
65°	1253.3	1182.5	1069.2	1090.4	906.3
67.5°	1026.7	991.3	892.2	793.0	764.7
70°	835.5	793.0	757.6	651.4	623.1
72.5°	665.6	623.1	573.5	516.9	495.7
75°	502.7	467.3	439.0	417.8	460.2
77.5°	347.0	332.8	311.6	290.3	283.2
80°	226.6	219.5	212.4	205.3	198.3
82.5°	134.5	134.5	134.5	134.5	134.5
85°	70.8	77.9	85.0	92.0	99.1
87.5°	42.5	42.5	49.6	56.6	63.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)