

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: P564111

Luminaire Tested: FSR-24-4-LD4-4STD-40-UNV-81-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564111
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-81-97-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14313.0 lumens
Efficiency: N/A
Efficacy: 107.5 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

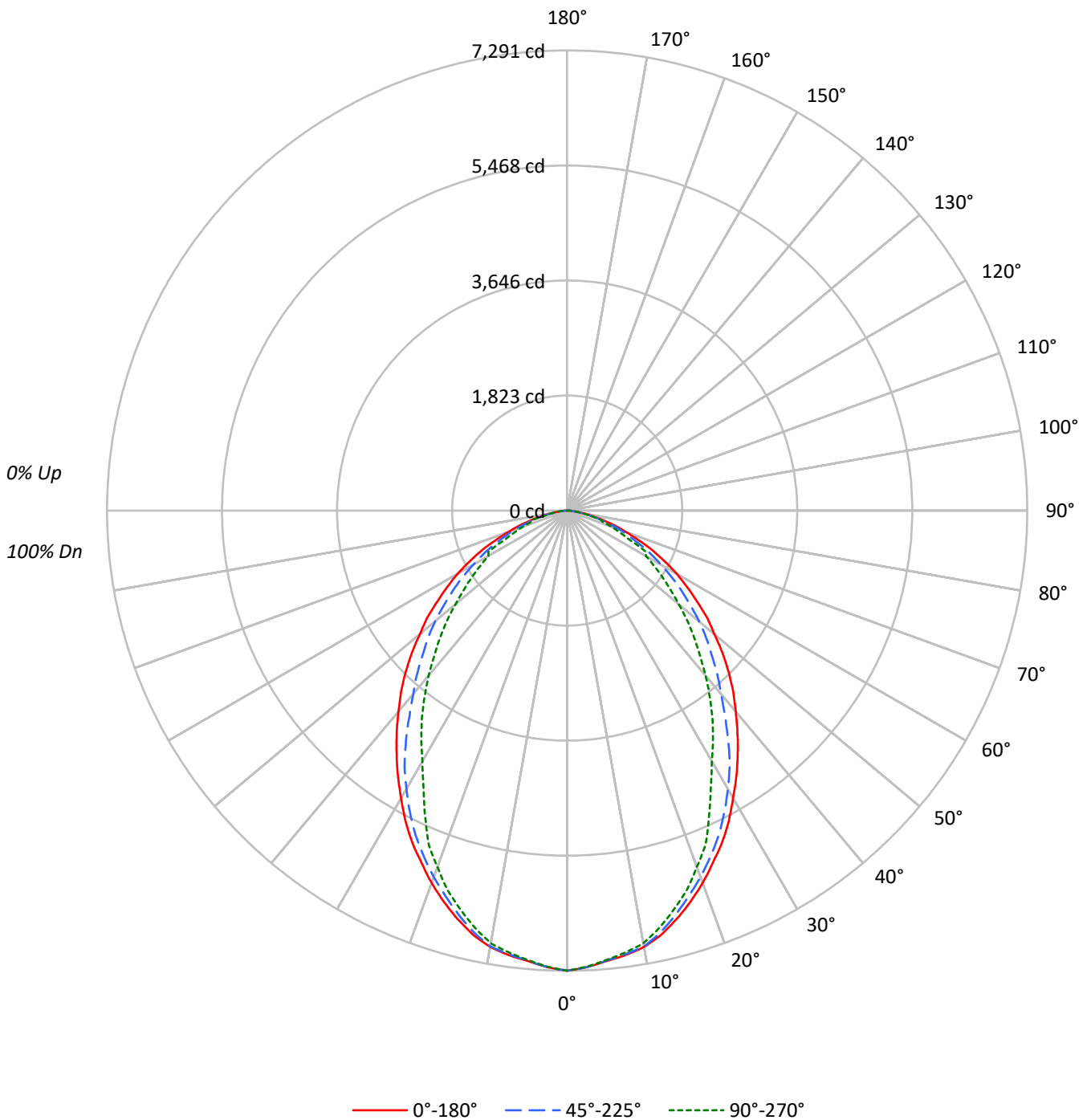
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	9810	9810	9810
5°	9676	9665	9654
10°	9593	9581	9512
15°	9334	9240	9111
20°	8991	8846	8605
25°	8622	8434	7908
30°	8171	7910	7124
35°	7739	7310	6590
40°	7299	6662	5996
45°	6880	6159	5421
50°	6369	5716	4834
55°	5892	5180	4330
60°	5398	4627	3879
65°	4750	4052	3435
70°	3913	3548	2918
75°	3111	2717	2848
80°	2090	1960	1829
85°	1301	1561	1822

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6880 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	678.7	4.7
10°-20°	1862.6	13.0
20°-30°	2578.6	18.0
30°-40°	2749.6	19.2
40°-50°	2508.4	17.5
50°-60°	1965.1	13.7
60°-70°	1280.8	8.9
70°-80°	567.4	4.0
80°-90°	121.8	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°	5119.9	35.8
0°-40°	7869.4	55.0
0°-60°	12343.0	86.2
0°-90°	14313.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14313.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7291	7291	7291	7291	7291	
5°	7164	7156	7156	7148	7148	680
15°	6701	6701	6633	6566	6541	1884
25°	5807	5774	5681	5479	5327	2666
35°	4712	4678	4450	4113	4012	2946
45°	3616	3540	3237	2967	2849	2785
55°	2512	2436	2208	1947	1846	2253
65°	1492	1408	1273	1298	1079	1470
75°	598	556	523	497	548	641
85°	84	93	101	110	118	117
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7290.9	7290.9	7290.9	7290.9	7290.9
2.5°	7240.3	7240.3	7240.3	7231.8	7231.8
5°	7164.4	7156.0	7156.0	7147.6	7147.6
7.5°	7105.4	7097.0	7088.6	7080.1	7063.3
10°	7021.1	7021.1	7012.7	6970.6	6962.1
12.5°	6886.3	6877.8	6844.1	6785.1	6768.3
15°	6700.8	6700.8	6633.4	6566.0	6540.7
17.5°	6498.6	6490.1	6405.8	6338.4	6304.7
20°	6279.4	6262.5	6178.3	6068.7	6009.7
22.5°	6035.0	6035.0	5933.8	5790.5	5731.5
25°	5807.4	5773.7	5681.0	5478.7	5327.0
27.5°	5546.1	5495.5	5394.4	5107.8	4930.8
30°	5259.5	5234.2	5091.0	4720.1	4585.2
32.5°	4989.8	4947.7	4795.9	4408.2	4298.7
35°	4711.7	4677.9	4450.4	4113.2	4012.1
37.5°	4433.5	4391.4	4104.8	3835.1	3708.6
40°	4155.4	4104.8	3792.9	3548.5	3413.6
42.5°	3894.1	3826.6	3523.2	3261.9	3110.2
45°	3615.9	3540.1	3236.6	2966.9	2848.9
47.5°	3337.8	3270.3	2992.2	2714.1	2579.2
50°	3042.8	2983.8	2730.9	2452.8	2309.5
52.5°	2798.3	2705.6	2461.2	2183.0	2065.0
55°	2511.8	2435.9	2208.3	1947.0	1845.9
57.5°	2250.5	2174.6	1963.9	1719.5	1635.2
60°	2006.0	1896.5	1719.5	1508.7	1441.3
62.5°	1736.3	1652.0	1500.3	1323.3	1407.6
65°	1491.9	1407.6	1272.7	1298.0	1078.9
67.5°	1222.2	1180.0	1062.0	944.0	910.3
70°	994.6	944.0	901.9	775.4	741.7
72.5°	792.3	741.7	682.7	615.3	590.0
75°	598.4	556.3	522.6	497.3	547.9
77.5°	413.0	396.2	370.9	345.6	337.1
80°	269.7	261.3	252.9	244.4	236.0
82.5°	160.1	160.1	160.1	160.1	160.1
85°	84.3	92.7	101.1	109.6	118.0
87.5°	50.6	50.6	59.0	67.4	75.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)