

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: P564133

Luminaire Tested: FSR-24-4-LD4-4STD-40-UNV-93-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564133
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-93-86-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15309.0 lumens
Efficiency: N/A
Efficacy: 114.9 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

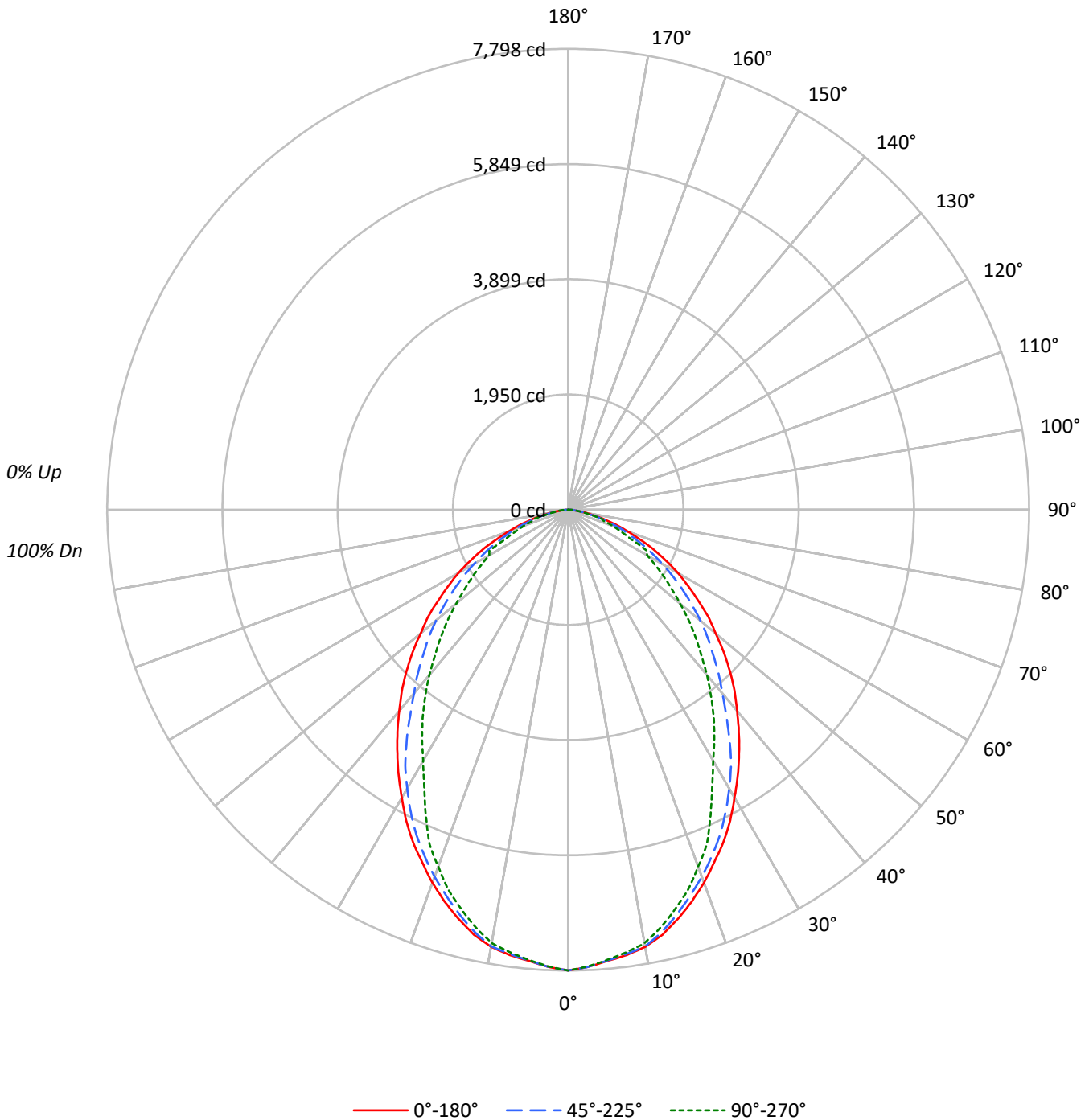
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	10492	10492	10492
5°	10350	10338	10325
10°	10260	10248	10174
15°	9983	9883	9745
20°	9617	9462	9204
25°	9221	9021	8459
30°	8740	8460	7620
35°	8278	7819	7049
40°	7806	7126	6413
45°	7359	6587	5798
50°	6812	6114	5171
55°	6302	5541	4631
60°	5774	4949	4148
65°	5080	4334	3674
70°	4185	3795	3121
75°	3328	2905	3046
80°	2235	2096	1956
85°	1392	1670	1948

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7359 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	725.9	4.7
10°-20°	1992.2	13.0
20°-30°	2758.1	18.0
30°-40°	2940.9	19.2
40°-50°	2682.9	17.5
50°-60°	2101.9	13.7
60°-70°	1369.9	8.9
70°-80°	606.9	4.0
80°-90°	130.3	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°	5476.2	35.8
0°-40°	8417.0	55.0
0°-60°	13201.9	86.2
0°-90°	15309.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15309.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7798	7798	7798	7798	7798	
5°	7663	7654	7654	7645	7645	727
15°	7167	7167	7095	7023	6996	2015
25°	6212	6176	6076	5860	5698	2852
35°	5040	5004	4760	4399	4291	3151
45°	3868	3786	3462	3173	3047	2979
55°	2686	2605	2362	2082	1974	2410
65°	1596	1506	1361	1388	1154	1573
75°	640	595	559	532	586	686
85°	90	99	108	117	126	125
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7798.2	7798.2	7798.2	7798.2	7798.2
2.5°	7744.1	7744.1	7744.1	7735.1	7735.1
5°	7663.0	7654.0	7654.0	7644.9	7644.9
7.5°	7599.9	7590.8	7581.8	7572.8	7554.8
10°	7509.7	7509.7	7500.7	7455.6	7446.6
12.5°	7365.5	7356.5	7320.4	7257.3	7239.3
15°	7167.1	7167.1	7095.0	7022.9	6995.8
17.5°	6950.8	6941.8	6851.6	6779.5	6743.4
20°	6716.4	6698.3	6608.2	6491.0	6427.9
22.5°	6454.9	6454.9	6346.7	6193.5	6130.4
25°	6211.5	6175.5	6076.3	5859.9	5697.6
27.5°	5932.0	5877.9	5769.8	5463.2	5273.9
30°	5625.5	5598.5	5445.2	5048.5	4904.3
32.5°	5337.0	5292.0	5129.7	4715.0	4597.8
35°	5039.5	5003.5	4760.1	4399.4	4291.3
37.5°	4742.0	4697.0	4390.4	4101.9	3966.7
40°	4444.5	4390.4	4056.9	3795.4	3651.2
42.5°	4165.1	4092.9	3768.4	3488.9	3326.6
45°	3867.5	3786.4	3461.9	3173.4	3047.2
47.5°	3570.0	3497.9	3200.4	2902.9	2758.7
50°	3254.5	3191.4	2920.9	2623.4	2470.2
52.5°	2993.1	2893.9	2632.5	2335.0	2208.7
55°	2686.5	2605.4	2362.0	2082.5	1974.3
57.5°	2407.1	2325.9	2100.6	1839.1	1749.0
60°	2145.6	2028.4	1839.1	1613.7	1541.6
62.5°	1857.1	1767.0	1604.7	1415.4	1505.5
65°	1595.7	1505.5	1361.3	1388.4	1154.0
67.5°	1307.2	1262.1	1135.9	1009.7	973.6
70°	1063.8	1009.7	964.6	829.4	793.3
72.5°	847.4	793.3	730.2	658.1	631.1
75°	640.1	595.0	558.9	531.9	586.0
77.5°	441.7	423.7	396.7	369.6	360.6
80°	288.5	279.5	270.5	261.4	252.4
82.5°	171.3	171.3	171.3	171.3	171.3
85°	90.2	99.2	108.2	117.2	126.2
87.5°	54.1	54.1	63.1	72.1	81.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)