

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: P564202

Luminaire Tested: FSR-24-4-LD4-4STD-50-UNV-93-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564202
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-50-UNV-93-94-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14009.0 lumens
Efficiency: N/A
Efficacy: 105.2 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

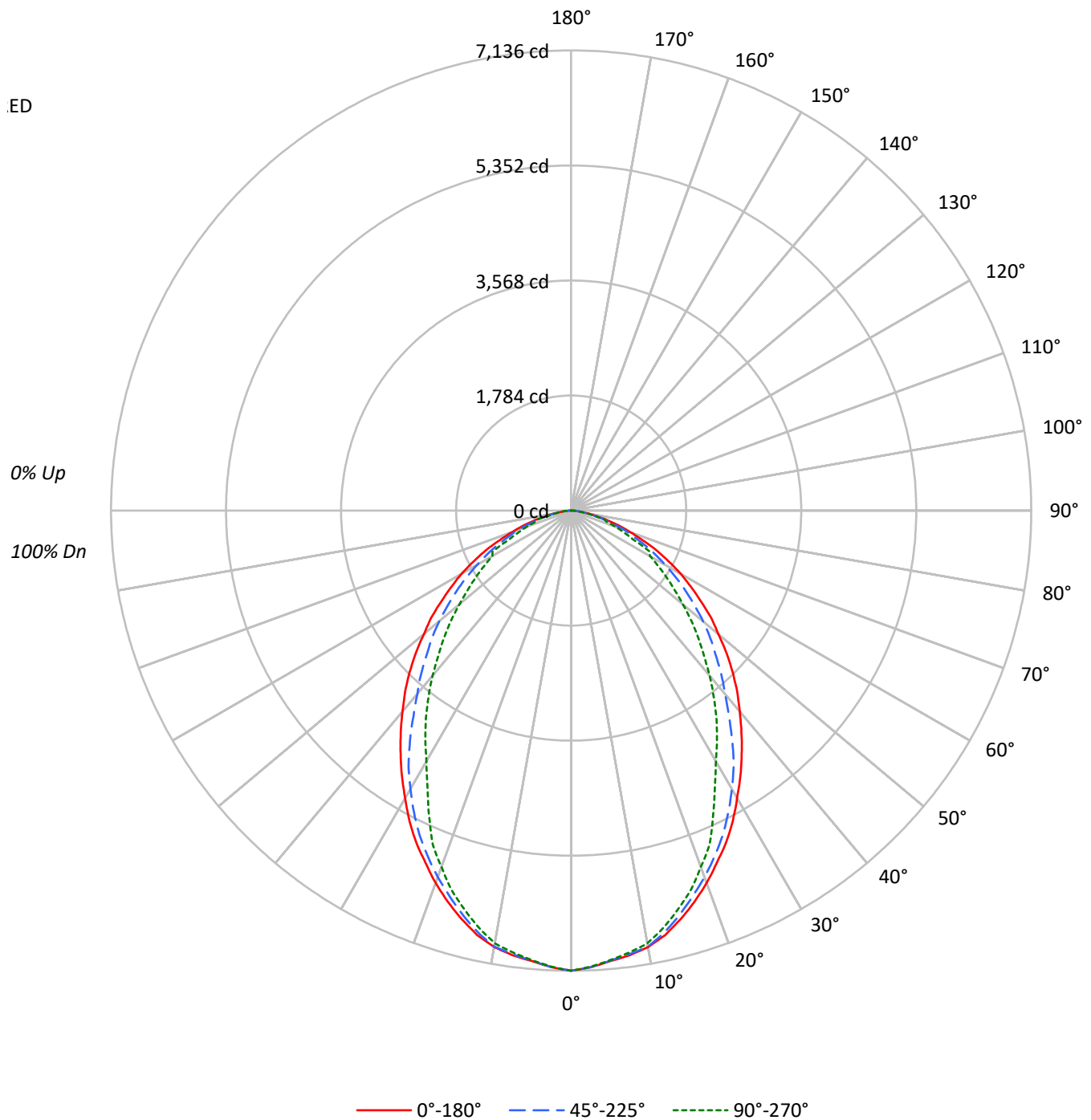
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	9601	9601	9601
5°	9471	9460	9449
10°	9389	9378	9310
15°	9136	9044	8917
20°	8800	8658	8422
25°	8438	8255	7740
30°	7998	7741	6972
35°	7575	7155	6450
40°	7144	6521	5868
45°	6734	6028	5306
50°	6234	5595	4731
55°	5767	5070	4238
60°	5283	4529	3796
65°	4649	3966	3362
70°	3830	3472	2856
75°	3045	2659	2787
80°	2046	1918	1790
85°	1274	1528	1783

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6734 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	664.3	4.7
10°-20°	1823.0	13.0
20°-30°	2523.8	18.0
30°-40°	2691.2	19.2
40°-50°	2455.1	17.5
50°-60°	1923.4	13.7
60°-70°	1253.6	8.9
70°-80°	555.4	4.0
80°-90°	119.2	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°	5011.1	35.8
0°-40°	7702.3	55.0
0°-60°	12080.8	86.2
0°-90°	14009.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14009.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7136	7136	7136	7136	7136	
5°	7012	7004	7004	6996	6996	666
15°	6558	6558	6492	6426	6402	1844
25°	5684	5651	5560	5362	5214	2610
35°	4612	4579	4356	4026	3927	2883
45°	3539	3465	3168	2904	2788	2726
55°	2458	2384	2161	1906	1807	2205
65°	1460	1378	1246	1270	1056	1439
75°	586	544	512	487	536	628
85°	82	91	99	107	116	114
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7136.0	7136.0	7136.0	7136.0	7136.0
2.5°	7086.5	7086.5	7086.5	7078.2	7078.2
5°	7012.3	7004.0	7004.0	6995.8	6995.8
7.5°	6954.5	6946.3	6938.0	6929.8	6913.3
10°	6872.0	6872.0	6863.8	6822.5	6814.3
12.5°	6740.0	6731.8	6698.8	6641.0	6624.5
15°	6558.5	6558.5	6492.5	6426.5	6401.8
17.5°	6360.5	6352.3	6269.8	6203.8	6170.8
20°	6146.0	6129.5	6047.0	5939.8	5882.0
22.5°	5906.8	5906.8	5807.8	5667.5	5609.8
25°	5684.0	5651.0	5560.3	5362.3	5213.8
27.5°	5428.3	5378.8	5279.8	4999.3	4826.1
30°	5147.8	5123.1	4982.8	4619.8	4487.8
32.5°	4883.8	4842.6	4694.1	4314.6	4207.4
35°	4611.6	4578.6	4355.8	4025.9	3926.9
37.5°	4339.3	4298.1	4017.6	3753.6	3629.9
40°	4067.1	4017.6	3712.4	3473.1	3341.1
42.5°	3811.4	3745.4	3448.4	3192.6	3044.1
45°	3539.1	3464.9	3167.9	2903.9	2788.4
47.5°	3266.9	3200.9	2928.6	2656.4	2524.4
50°	2978.1	2920.4	2672.9	2400.7	2260.4
52.5°	2738.9	2648.2	2408.9	2136.7	2021.2
55°	2458.4	2384.2	2161.4	1905.7	1806.7
57.5°	2202.7	2128.4	1922.2	1682.9	1600.4
60°	1963.4	1856.2	1682.9	1476.7	1410.7
62.5°	1699.4	1616.9	1468.4	1295.2	1377.7
65°	1460.2	1377.7	1245.7	1270.5	1056.0
67.5°	1196.2	1155.0	1039.5	924.0	891.0
70°	973.5	924.0	882.7	759.0	726.0
72.5°	775.5	726.0	668.2	602.2	577.5
75°	585.7	544.5	511.5	486.7	536.2
77.5°	404.2	387.7	363.0	338.2	330.0
80°	264.0	255.7	247.5	239.2	231.0
82.5°	156.7	156.7	156.7	156.7	156.7
85°	82.5	90.7	99.0	107.2	115.5
87.5°	49.5	49.5	57.7	66.0	74.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)