

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: P564194

Luminaire Tested: FSR-24-4-LD4-4STD-50-UNV-93-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564194
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-93-85-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13699.0 lumens
Efficiency: N/A
Efficacy: 102.8 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

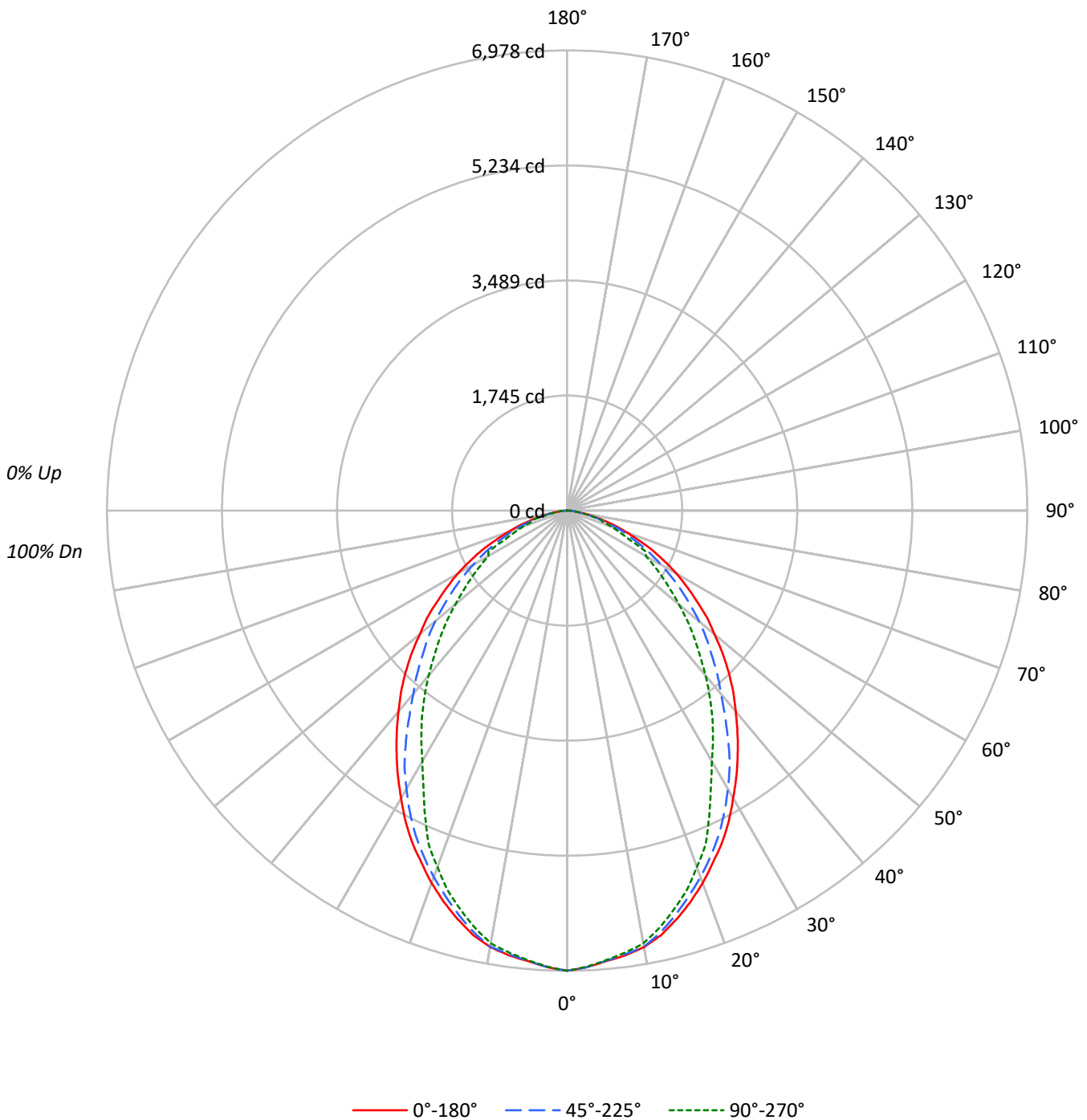
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	9389	9389	9389
5°	9261	9250	9240
10°	9181	9170	9104
15°	8934	8844	8720
20°	8605	8467	8236
25°	8252	8072	7569
30°	7821	7570	6818
35°	7407	6996	6307
40°	6985	6376	5739
45°	6585	5895	5188
50°	6096	5471	4627
55°	5639	4958	4144
60°	5167	4429	3712
65°	4546	3878	3287
70°	3745	3396	2793
75°	2978	2600	2726
80°	2000	1875	1750
85°	1246	1494	1743

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6585 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	649.6	4.7
10°-20°	1782.7	13.0
20°-30°	2468.0	18.0
30°-40°	2631.6	19.2
40°-50°	2400.8	17.5
50°-60°	1880.8	13.7
60°-70°	1225.8	8.9
70°-80°	543.1	4.0
80°-90°	116.6	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°	4900.2	35.8
0°-40°	7531.9	55.0
0°-60°	11813.5	86.2
0°-90°	13699.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13699.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6978	6978	6978	6978	6978	
5°	6857	6849	6849	6841	6841	651
15°	6413	6413	6349	6284	6260	1803
25°	5558	5526	5437	5244	5098	2552
35°	4510	4477	4260	3937	3840	2819
45°	3461	3388	3098	2840	2727	2666
55°	2404	2331	2114	1864	1767	2156
65°	1428	1347	1218	1242	1033	1407
75°	573	532	500	476	524	614
85°	81	89	97	105	113	112
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6978.1	6978.1	6978.1	6978.1	6978.1
2.5°	6929.7	6929.7	6929.7	6921.6	6921.6
5°	6857.1	6849.0	6849.0	6840.9	6840.9
7.5°	6800.6	6792.5	6784.5	6776.4	6760.3
10°	6719.9	6719.9	6711.9	6671.5	6663.5
12.5°	6590.9	6582.8	6550.5	6494.1	6477.9
15°	6413.4	6413.4	6348.8	6284.3	6260.1
17.5°	6219.8	6211.7	6131.0	6066.5	6034.2
20°	6010.0	5993.9	5913.2	5808.4	5751.9
22.5°	5776.1	5776.1	5679.3	5542.1	5485.7
25°	5558.3	5526.0	5437.3	5243.6	5098.4
27.5°	5308.2	5259.8	5163.0	4888.7	4719.3
30°	5033.9	5009.7	4872.6	4517.6	4388.5
32.5°	4775.8	4735.4	4590.2	4219.1	4114.2
35°	4509.5	4477.3	4259.5	3936.8	3840.0
37.5°	4243.3	4203.0	3928.7	3670.6	3549.5
40°	3977.1	3928.7	3630.2	3396.3	3267.2
42.5°	3727.0	3662.5	3372.1	3122.0	2976.8
45°	3460.8	3388.2	3097.8	2839.6	2726.7
47.5°	3194.6	3130.1	2863.8	2597.6	2468.5
50°	2912.2	2855.8	2613.8	2347.5	2210.4
52.5°	2678.3	2589.6	2355.6	2089.4	1976.5
55°	2404.0	2331.4	2113.6	1863.5	1766.7
57.5°	2153.9	2081.3	1879.6	1645.7	1565.0
60°	1920.0	1815.1	1645.7	1444.0	1379.5
62.5°	1661.8	1581.2	1436.0	1266.5	1347.2
65°	1427.9	1347.2	1218.1	1242.3	1032.6
67.5°	1169.7	1129.4	1016.5	903.5	871.3
70°	951.9	903.5	863.2	742.2	709.9
72.5°	758.3	709.9	653.4	588.9	564.7
75°	572.8	532.4	500.2	476.0	524.4
77.5°	395.3	379.2	355.0	330.8	322.7
80°	258.1	250.1	242.0	233.9	225.9
82.5°	153.3	153.3	153.3	153.3	153.3
85°	80.7	88.7	96.8	104.9	112.9
87.5°	48.4	48.4	56.5	64.5	72.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)