

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: P562663

Luminaire Tested: FSR-24-4-LD4-2HI-50-UNV-93-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562663
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-LD4-2HI-50-UNV-93-87-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9238.0 lumens
Efficiency: N/A
Efficacy: 106.9 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

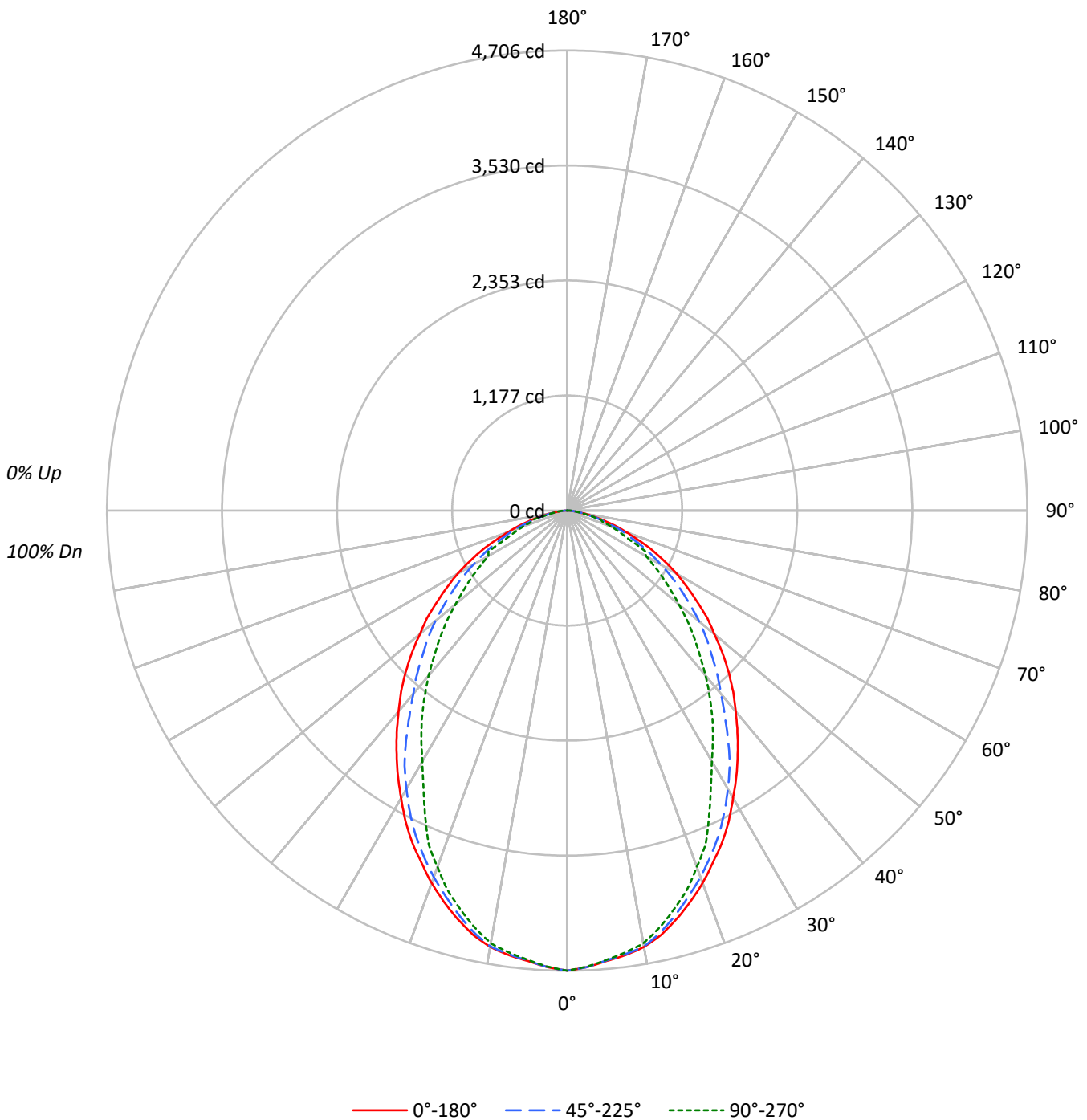
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	6331	6331	6331
5°	6245	6238	6231
10°	6191	6184	6139
15°	6024	5964	5880
20°	5803	5710	5554
25°	5565	5443	5104
30°	5274	5105	4598
35°	4995	4718	4253
40°	4711	4300	3870
45°	4441	3975	3499
50°	4111	3689	3120
55°	3803	3343	2795
60°	3484	2986	2503
65°	3066	2615	2217
70°	2525	2290	1883
75°	2008	1753	1838
80°	1349	1265	1180
85°	840	1008	1176

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4441 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	438.0	4.7
10°-20°	1202.2	13.0
20°-30°	1664.3	18.0
30°-40°	1774.6	19.2
40°-50°	1619.0	17.5
50°-60°	1268.4	13.7
60°-70°	826.7	8.9
70°-80°	366.2	4.0
80°-90°	78.6	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°	3304.5	35.8
0°-40°	5079.1	55.0
0°-60°	7966.5	86.2
0°-90°	9238.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9238.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4706	4706	4706	4706	4706	
5°	4624	4619	4619	4613	4613	439
15°	4325	4325	4281	4238	4222	1216
25°	3748	3726	3667	3536	3438	1721
35°	3041	3019	2872	2655	2590	1901
45°	2334	2285	2089	1915	1839	1798
55°	1621	1572	1425	1257	1191	1454
65°	963	908	822	838	696	949
75°	386	359	337	321	354	414
85°	54	60	65	71	76	75
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4705.7	4705.7	4705.7	4705.7	4705.7
2.5°	4673.1	4673.1	4673.1	4667.6	4667.6
5°	4624.1	4618.7	4618.7	4613.2	4613.2
7.5°	4586.0	4580.6	4575.2	4569.7	4558.8
10°	4531.6	4531.6	4526.2	4499.0	4493.5
12.5°	4444.6	4439.1	4417.4	4379.3	4368.4
15°	4324.9	4324.9	4281.4	4237.9	4221.5
17.5°	4194.3	4188.9	4134.5	4091.0	4069.2
20°	4052.9	4042.0	3987.6	3916.9	3878.8
22.5°	3895.1	3895.1	3829.9	3737.4	3699.3
25°	3748.3	3726.5	3666.6	3536.1	3438.2
27.5°	3579.6	3547.0	3481.7	3296.7	3182.5
30°	3394.6	3378.3	3285.8	3046.5	2959.4
32.5°	3220.6	3193.4	3095.4	2845.2	2774.5
35°	3041.0	3019.3	2872.4	2654.8	2589.5
37.5°	2861.5	2834.3	2649.3	2475.3	2393.7
40°	2682.0	2649.3	2448.1	2290.3	2203.3
42.5°	2513.3	2469.8	2274.0	2105.3	2007.4
45°	2333.8	2284.9	2089.0	1914.9	1838.8
47.5°	2154.3	2110.8	1931.2	1751.7	1664.7
50°	1963.9	1925.8	1762.6	1583.1	1490.6
52.5°	1806.1	1746.3	1588.5	1409.0	1332.8
55°	1621.2	1572.2	1425.3	1256.7	1191.4
57.5°	1452.5	1403.6	1267.6	1109.8	1055.4
60°	1294.8	1224.0	1109.8	973.8	930.3
62.5°	1120.7	1066.3	968.3	854.1	908.5
65°	962.9	908.5	821.5	837.8	696.3
67.5°	788.8	761.6	685.5	609.3	587.5
70°	641.9	609.3	582.1	500.5	478.7
72.5°	511.4	478.7	440.7	397.1	380.8
75°	386.2	359.0	337.3	321.0	353.6
77.5°	266.6	255.7	239.4	223.0	217.6
80°	174.1	168.6	163.2	157.8	152.3
82.5°	103.4	103.4	103.4	103.4	103.4
85°	54.4	59.8	65.3	70.7	76.2
87.5°	32.6	32.6	38.1	43.5	49.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)