

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: P563485

Luminaire Tested: FSR-24-4-LD4-3STD-35-UNV-82-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563485
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-LD4-3STD-35-UNV-82-96-EDD
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10792.0 lumens
Efficiency: N/A
Efficacy: 108.0 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

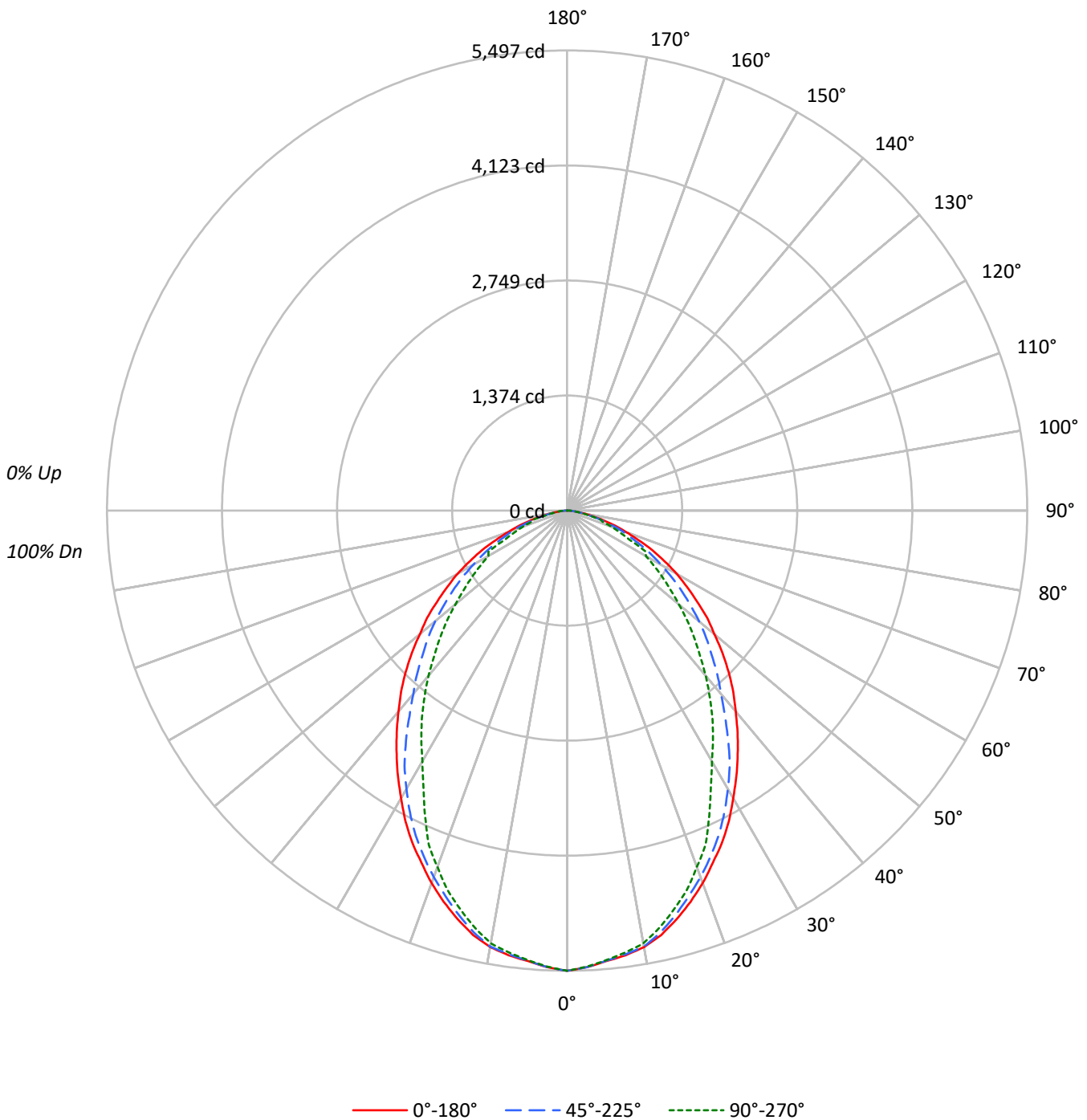
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7397	7397	7397
5°	7296	7287	7279
10°	7233	7224	7172
15°	7038	6967	6870
20°	6779	6670	6488
25°	6501	6359	5963
30°	6161	5964	5371
35°	5835	5512	4969
40°	5503	5023	4521
45°	5188	4644	4087
50°	4802	4310	3645
55°	4443	3906	3265
60°	4070	3489	2924
65°	3581	3055	2590
70°	2950	2675	2200
75°	2346	2048	2148
80°	1576	1478	1378
85°	982	1178	1374

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5188 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	511.7	4.7
10°-20°	1404.4	13.0
20°-30°	1944.3	18.0
30°-40°	2073.2	19.2
40°-50°	1891.3	17.5
50°-60°	1481.7	13.7
60°-70°	965.7	8.9
70°-80°	427.8	4.0
80°-90°	91.8	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°	3860.4	35.8
0°-40°	5933.6	55.0
0°-60°	9306.6	86.2
0°-90°	10792.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10792.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5497	5497	5497	5497	5497	
5°	5402	5396	5396	5389	5389	513
15°	5052	5052	5002	4951	4932	1420
25°	4379	4353	4283	4131	4016	2010
35°	3553	3527	3356	3101	3025	2221
45°	2726	2669	2440	2237	2148	2100
55°	1894	1837	1665	1468	1392	1699
65°	1125	1061	960	979	814	1109
75°	451	419	394	375	413	484
85°	64	70	76	83	89	88
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5497.3	5497.3	5497.3	5497.3	5497.3
2.5°	5459.2	5459.2	5459.2	5452.8	5452.8
5°	5402.0	5395.6	5395.6	5389.3	5389.3
7.5°	5357.5	5351.1	5344.8	5338.4	5325.7
10°	5293.9	5293.9	5287.6	5255.8	5249.4
12.5°	5192.2	5185.9	5160.5	5116.0	5103.3
15°	5052.4	5052.4	5001.6	4950.7	4931.7
17.5°	4899.9	4893.6	4830.0	4779.2	4753.7
20°	4734.7	4722.0	4658.4	4575.8	4531.3
22.5°	4550.4	4550.4	4474.1	4366.1	4321.6
25°	4378.8	4353.4	4283.4	4130.9	4016.5
27.5°	4181.8	4143.6	4067.4	3851.3	3717.8
30°	3965.7	3946.6	3838.6	3558.9	3457.3
32.5°	3762.3	3730.5	3616.1	3323.8	3241.2
35°	3552.6	3527.2	3355.6	3101.4	3025.1
37.5°	3342.9	3311.1	3095.0	2891.6	2796.3
40°	3133.1	3095.0	2859.9	2675.6	2573.9
42.5°	2936.1	2885.3	2656.5	2459.5	2345.1
45°	2726.4	2669.2	2440.4	2237.1	2148.1
47.5°	2516.7	2465.8	2256.1	2046.4	1944.7
50°	2294.2	2249.8	2059.1	1849.4	1741.3
52.5°	2109.9	2040.0	1855.7	1646.0	1557.0
55°	1893.9	1836.7	1665.1	1468.1	1391.8
57.5°	1696.9	1639.7	1480.8	1296.5	1232.9
60°	1512.6	1429.9	1296.5	1137.6	1086.7
62.5°	1309.2	1245.6	1131.2	997.8	1061.3
65°	1124.9	1061.3	959.6	978.7	813.5
67.5°	921.5	889.7	800.8	711.8	686.4
70°	749.9	711.8	680.0	584.7	559.3
72.5°	597.4	559.3	514.8	463.9	444.9
75°	451.2	419.4	394.0	375.0	413.1
77.5°	311.4	298.7	279.6	260.6	254.2
80°	203.4	197.0	190.7	184.3	177.9
82.5°	120.7	120.7	120.7	120.7	120.7
85°	63.6	69.9	76.3	82.6	89.0
87.5°	38.1	38.1	44.5	50.8	57.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)