

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: P563756

Luminaire Tested: FSR-24-4-LD4-4HI-40-UNV-93-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563756
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-LD4-4HI-40-UNV-93-96-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16138.0 lumens
Efficiency: N/A
Efficacy: 93.4 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

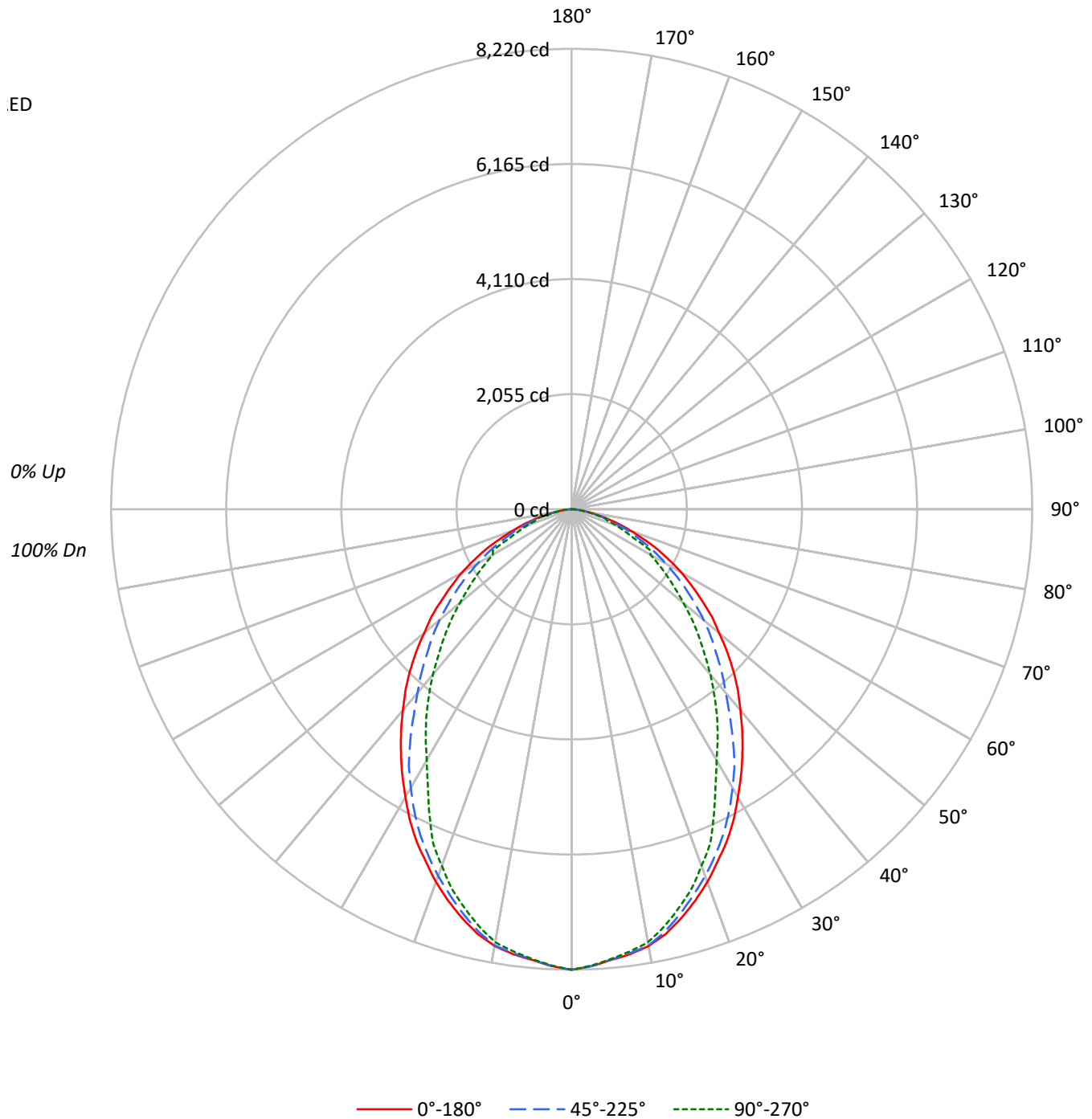
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	11061	11061	11061
5°	10910	10897	10885
10°	10816	10803	10725
15°	10524	10418	10273
20°	10138	9974	9702
25°	9721	9509	8917
30°	9213	8918	8032
35°	8726	8242	7430
40°	8229	7511	6760
45°	7758	6944	6112
50°	7181	6445	5451
55°	6643	5841	4882
60°	6086	5217	4373
65°	5355	4569	3873
70°	4412	4000	3290
75°	3507	3063	3211
80°	2356	2209	2062
85°	1467	1760	2053

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7758 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	765.2	4.7
10°-20°	2100.1	13.0
20°-30°	2907.4	18.0
30°-40°	3100.1	19.2
40°-50°	2828.2	17.5
50°-60°	2215.7	13.7
60°-70°	1444.1	8.9
70°-80°	639.8	4.0
80°-90°	137.4	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°	5772.7	35.8
0°-40°	8872.8	55.0
0°-60°	13916.8	86.2
0°-90°	16138.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16138.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8220	8220	8220	8220	8220	
5°	8078	8068	8068	8059	8059	767
15°	7555	7555	7479	7403	7375	2124
25°	6548	6510	6405	6177	6006	3006
35°	5312	5274	5018	4638	4524	3321
45°	4077	3991	3649	3345	3212	3140
55°	2832	2746	2490	2195	2081	2540
65°	1682	1587	1435	1464	1216	1658
75°	675	627	589	561	618	723
85°	95	104	114	124	133	132
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8220.5	8220.5	8220.5	8220.5	8220.5
2.5°	8163.5	8163.5	8163.5	8154.0	8154.0
5°	8077.9	8068.4	8068.4	8058.9	8058.9
7.5°	8011.4	8001.9	7992.4	7982.9	7963.9
10°	7916.4	7916.4	7906.9	7859.4	7849.8
12.5°	7764.3	7754.8	7716.8	7650.3	7631.3
15°	7555.2	7555.2	7479.2	7403.2	7374.7
17.5°	7327.2	7317.7	7222.6	7146.6	7108.6
20°	7080.1	7061.1	6966.0	6842.5	6776.0
22.5°	6804.5	6804.5	6690.4	6528.9	6462.3
25°	6547.9	6509.9	6405.3	6177.2	6006.2
27.5°	6253.3	6196.2	6082.2	5759.1	5559.5
30°	5930.2	5901.6	5740.1	5321.9	5169.9
32.5°	5626.0	5578.5	5407.5	4970.3	4846.8
35°	5312.4	5274.4	5017.8	4637.7	4523.6
37.5°	4998.8	4951.3	4628.2	4324.1	4181.5
40°	4685.2	4628.2	4276.6	4001.0	3848.9
42.5°	4390.6	4314.6	3972.4	3677.8	3506.8
45°	4077.0	3991.4	3649.3	3345.2	3212.2
47.5°	3763.4	3687.3	3373.7	3060.1	2908.1
50°	3430.7	3364.2	3079.1	2765.5	2603.9
52.5°	3155.1	3050.6	2775.0	2461.4	2328.3
55°	2832.0	2746.5	2489.9	2195.3	2081.3
57.5°	2537.4	2451.9	2214.3	1938.7	1843.7
60°	2261.8	2138.3	1938.7	1701.1	1625.1
62.5°	1957.7	1862.7	1691.6	1492.0	1587.1
65°	1682.1	1587.1	1435.0	1463.5	1216.4
67.5°	1378.0	1330.5	1197.4	1064.4	1026.4
70°	1121.4	1064.4	1016.9	874.3	836.3
72.5°	893.3	836.3	769.8	693.8	665.2
75°	674.7	627.2	589.2	560.7	617.7
77.5°	465.7	446.7	418.2	389.6	380.1
80°	304.1	294.6	285.1	275.6	266.1
82.5°	180.6	180.6	180.6	180.6	180.6
85°	95.0	104.5	114.0	123.5	133.0
87.5°	57.0	57.0	66.5	76.0	85.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)