

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: P563759

Luminaire Tested: FSR-24-4-LD4-4HI-40-UNV-93-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563759
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-93-97-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18518.0 lumens
Efficiency: N/A
Efficacy: 107.2 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

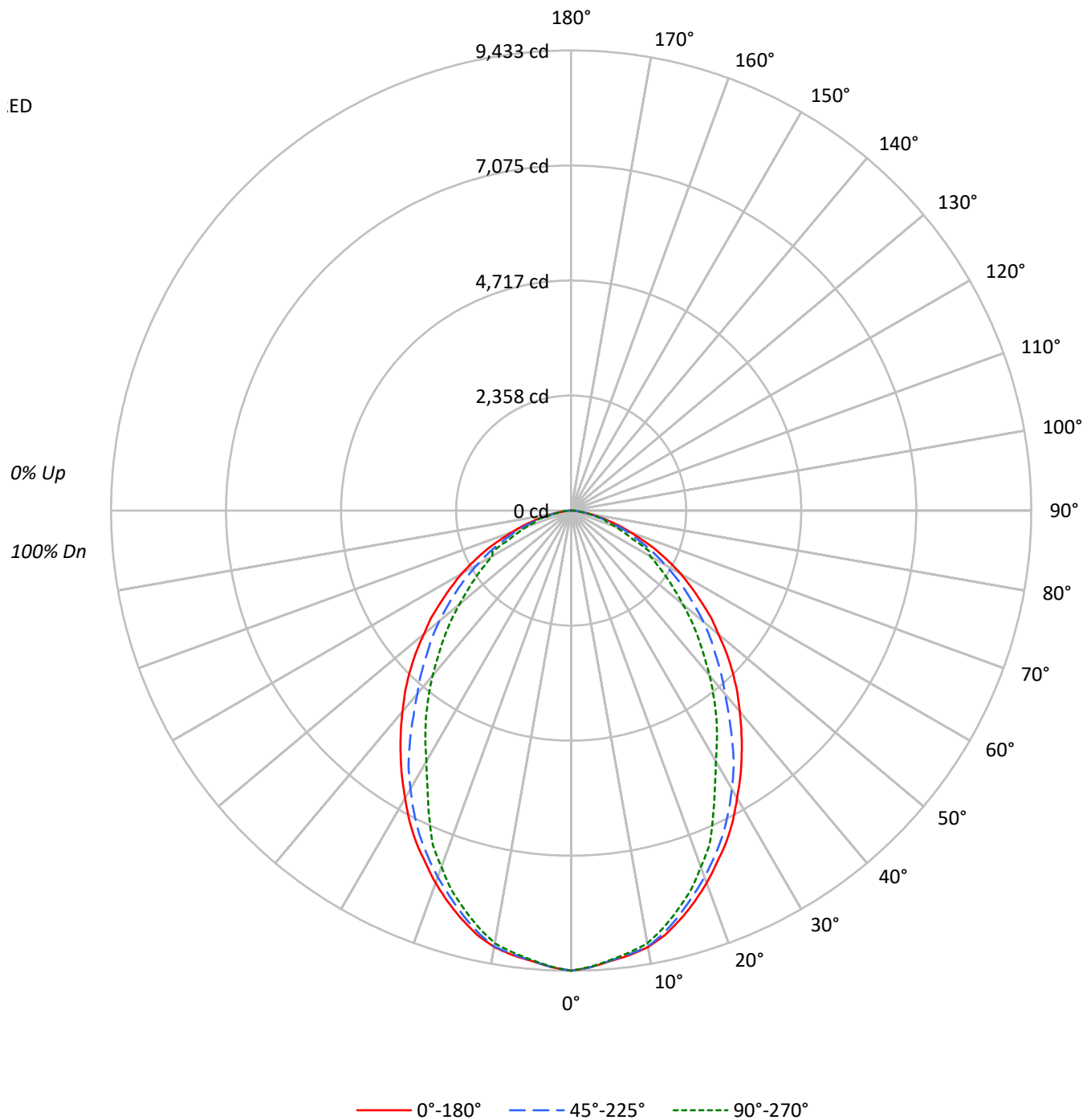
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	12692	12692	12692
5°	12519	12505	12490
10°	12411	12396	12306
15°	12076	11955	11788
20°	11633	11445	11133
25°	11154	10912	10232
30°	10572	10233	9217
35°	10013	9457	8526
40°	9443	8619	7757
45°	8902	7968	7014
50°	8240	7396	6255
55°	7623	6702	5602
60°	6984	5986	5018
65°	6145	5243	4444
70°	5062	4590	3775
75°	4025	3515	3685
80°	2704	2534	2366
85°	1683	2021	2357

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8902 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	878.1	4.7
10°-20°	2409.8	13.0
20°-30°	3336.2	18.0
30°-40°	3557.3	19.2
40°-50°	3245.3	17.5
50°-60°	2542.5	13.7
60°-70°	1657.1	8.9
70°-80°	734.1	4.0
80°-90°	157.6	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°	6624.0	35.8
0°-40°	10181.4	55.0
0°-60°	15969.2	86.2
0°-90°	18518.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	18518.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	9433	9433	9433	9433	9433	
5°	9269	9258	9258	9247	9247	880
15°	8670	8670	8582	8495	8462	2437
25°	7514	7470	7350	7088	6892	3449
35°	6096	6052	5758	5322	5191	3811
45°	4678	4580	4188	3839	3686	3604
55°	3250	3152	2857	2519	2388	2915
65°	1930	1821	1647	1679	1396	1902
75°	774	720	676	643	709	830
85°	109	120	131	142	153	151
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	9432.8	9432.8	9432.8	9432.8	9432.8
2.5°	9367.4	9367.4	9367.4	9356.5	9356.5
5°	9269.2	9258.3	9258.3	9247.4	9247.4
7.5°	9192.9	9182.0	9171.1	9160.2	9138.4
10°	9083.9	9083.9	9073.0	9018.4	9007.5
12.5°	8909.4	8898.5	8854.9	8778.5	8756.7
15°	8669.5	8669.5	8582.2	8495.0	8462.3
17.5°	8407.8	8396.8	8287.8	8200.6	8156.9
20°	8124.2	8102.4	7993.4	7851.6	7775.3
22.5°	7808.0	7808.0	7677.1	7491.7	7415.4
25°	7513.5	7469.9	7350.0	7088.2	6892.0
27.5°	7175.5	7110.1	6979.2	6608.4	6379.4
30°	6804.7	6772.0	6586.6	6106.8	5932.3
32.5°	6455.8	6401.2	6204.9	5703.3	5561.5
35°	6095.9	6052.3	5757.8	5321.6	5190.8
37.5°	5736.0	5681.5	5310.7	4961.8	4798.2
40°	5376.2	5310.7	4907.2	4591.0	4416.5
42.5°	5038.1	4950.9	4558.3	4220.2	4023.9
45°	4678.2	4580.1	4187.5	3838.6	3685.9
47.5°	4318.4	4231.1	3871.3	3511.4	3336.9
50°	3936.7	3860.4	3533.2	3173.4	2988.0
52.5°	3620.5	3500.5	3184.3	2824.4	2671.7
55°	3249.7	3151.5	2857.1	2519.1	2388.2
57.5°	2911.6	2813.5	2540.9	2224.6	2115.6
60°	2595.4	2453.6	2224.6	1952.0	1864.8
62.5°	2246.4	2137.4	1941.1	1712.1	1821.1
65°	1930.2	1821.1	1646.7	1679.4	1395.8
67.5°	1581.2	1526.7	1374.0	1221.4	1177.7
70°	1286.8	1221.4	1166.8	1003.3	959.6
72.5°	1025.1	959.6	883.3	796.1	763.3
75°	774.3	719.7	676.1	643.4	708.8
77.5°	534.3	512.5	479.8	447.1	436.2
80°	349.0	338.1	327.1	316.2	305.3
82.5°	207.2	207.2	207.2	207.2	207.2
85°	109.0	120.0	130.9	141.8	152.7
87.5°	65.4	65.4	76.3	87.2	98.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)