

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: P561485

Luminaire Tested: FSR-12-4-LD4-2HI-50-UNV-81-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561485
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-12-4-LD4-2HI-50-UNV-81-96-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7881.0 lumens
Efficiency: N/A
Efficacy: 91.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

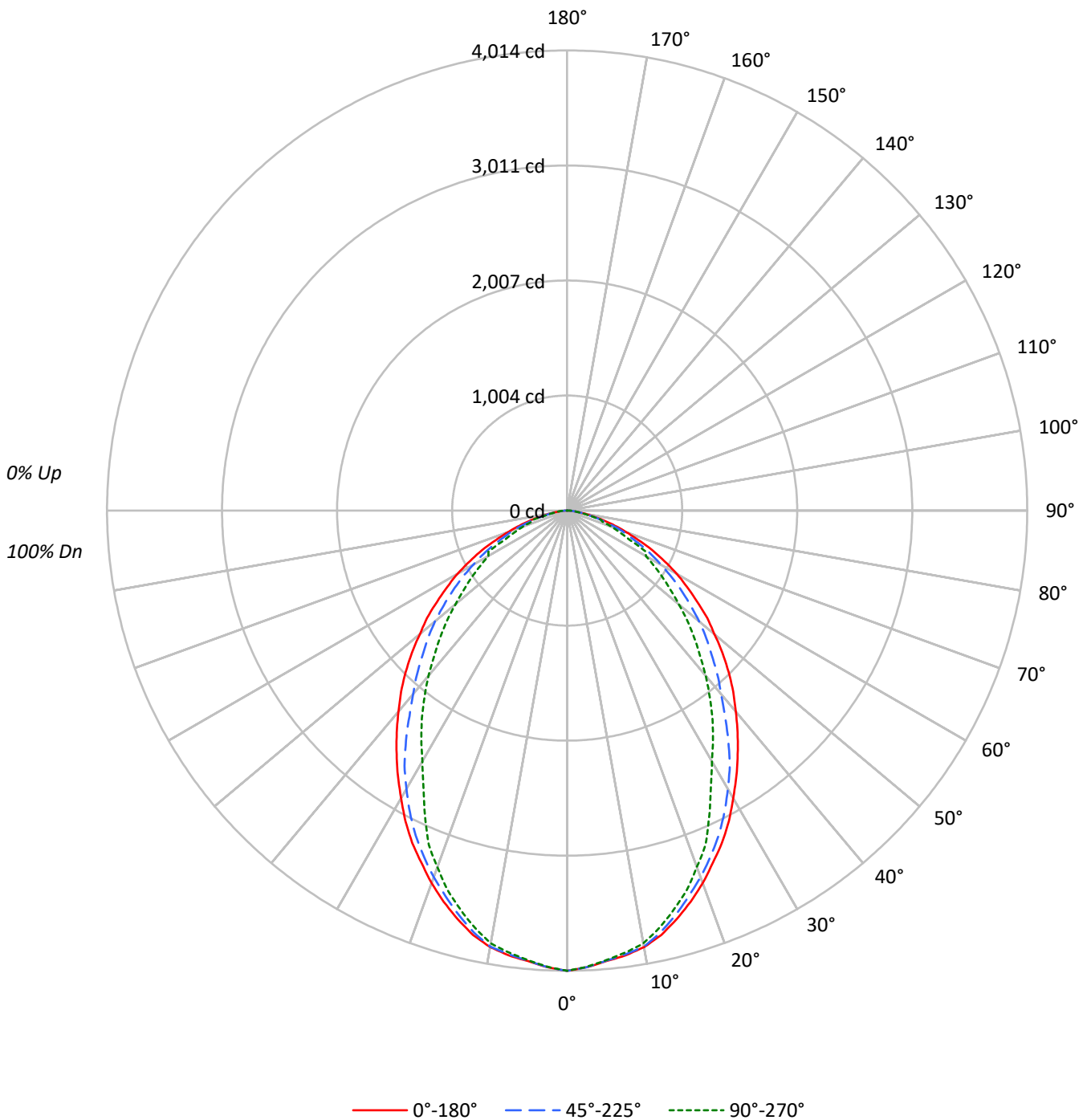
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	10803	10803	10803
5°	10656	10643	10631
10°	10564	10551	10475
15°	10279	10176	10033
20°	9901	9742	9476
25°	9495	9288	8709
30°	8999	8710	7845
35°	8522	8050	7257
40°	8037	7337	6603
45°	7577	6782	5970
50°	7014	6295	5323
55°	6488	5704	4769
60°	5945	5096	4271
65°	5231	4462	3782
70°	4308	3907	3213
75°	3426	2991	3137
80°	2301	2157	2013
85°	1433	1720	2007

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7577 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	373.7	4.7
10°-20°	1025.6	13.0
20°-30°	1419.8	18.0
30°-40°	1514.0	19.2
40°-50°	1381.2	17.5
50°-60°	1082.0	13.7
60°-70°	705.2	8.9
70°-80°	312.4	4.0
80°-90°	67.1	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°	2819.1	35.8
0°-40°	4333.1	55.0
0°-60°	6796.3	86.2
0°-90°	7881.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7881.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4014	4014	4014	4014	4014	
5°	3945	3940	3940	3936	3936	374
15°	3690	3690	3652	3615	3601	1037
25°	3198	3179	3128	3017	2933	1468
35°	2594	2576	2450	2265	2209	1622
45°	1991	1949	1782	1634	1569	1534
55°	1383	1341	1216	1072	1016	1240
65°	822	775	701	715	594	810
75°	330	306	288	274	302	353
85°	46	51	56	60	65	64
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4014.5	4014.5	4014.5	4014.5	4014.5
2.5°	3986.6	3986.6	3986.6	3982.0	3982.0
5°	3944.9	3940.2	3940.2	3935.6	3935.6
7.5°	3912.4	3907.7	3903.1	3898.5	3889.2
10°	3866.0	3866.0	3861.3	3838.1	3833.5
12.5°	3791.7	3787.1	3768.5	3736.0	3726.7
15°	3689.6	3689.6	3652.5	3615.3	3601.4
17.5°	3578.2	3573.6	3527.2	3490.0	3471.5
20°	3457.6	3448.3	3401.9	3341.5	3309.0
22.5°	3323.0	3323.0	3267.3	3188.4	3155.9
25°	3197.7	3179.1	3128.0	3016.7	2933.1
27.5°	3053.8	3025.9	2970.2	2812.5	2715.0
30°	2896.0	2882.1	2803.2	2599.0	2524.7
32.5°	2747.5	2724.3	2640.7	2427.2	2366.9
35°	2594.3	2575.8	2450.5	2264.8	2209.1
37.5°	2441.2	2418.0	2260.2	2111.7	2042.0
40°	2288.0	2260.2	2088.5	1953.9	1879.6
42.5°	2144.1	2107.0	1939.9	1796.1	1712.5
45°	1991.0	1949.2	1782.1	1633.6	1568.7
47.5°	1837.8	1800.7	1647.6	1494.4	1420.1
50°	1675.4	1642.9	1503.7	1350.5	1271.6
52.5°	1540.8	1489.8	1355.2	1202.0	1137.0
55°	1383.0	1341.3	1215.9	1072.1	1016.4
57.5°	1239.2	1197.4	1081.4	946.8	900.4
60°	1104.6	1044.2	946.8	830.7	793.6
62.5°	956.0	909.6	826.1	728.6	775.0
65°	821.5	775.0	700.8	714.7	594.0
67.5°	672.9	649.7	584.8	519.8	501.2
70°	547.6	519.8	496.6	427.0	408.4
72.5°	436.3	408.4	375.9	338.8	324.9
75°	329.5	306.3	287.7	273.8	301.7
77.5°	227.4	218.1	204.2	190.3	185.6
80°	148.5	143.9	139.2	134.6	129.9
82.5°	88.2	88.2	88.2	88.2	88.2
85°	46.4	51.1	55.7	60.3	65.0
87.5°	27.8	27.8	32.5	37.1	41.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)