

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: P561097

Luminaire Tested: FSR-12-4-LD4-1LO-50-UNV-81-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561097
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-LD4-1LO-50-UNV-81-88-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2043.0 lumens
Efficiency: N/A
Efficacy: 87.3 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

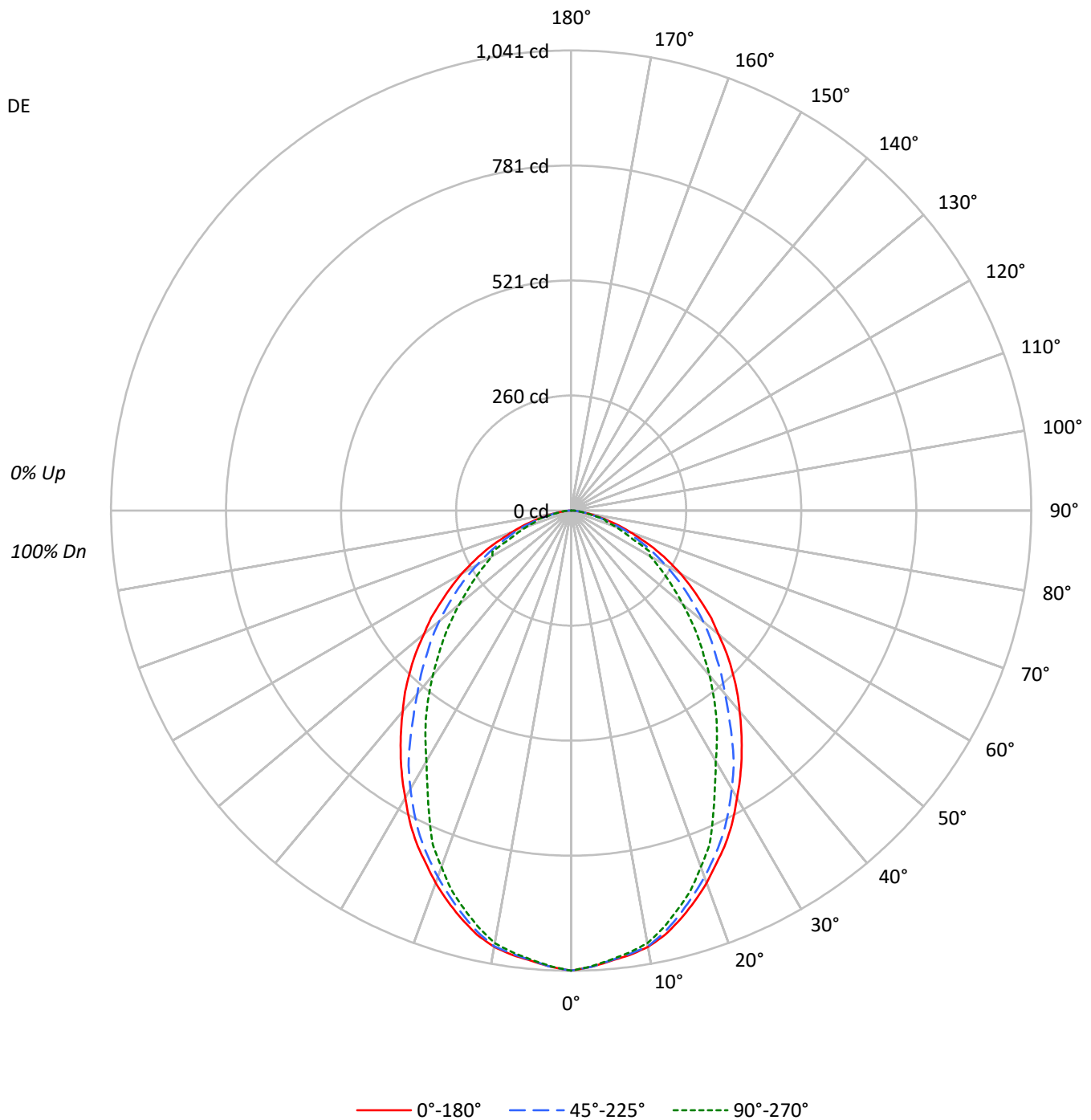
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2801	2801	2801
5°	2762	2759	2756
10°	2739	2735	2716
15°	2665	2638	2601
20°	2567	2525	2456
25°	2461	2408	2258
30°	2333	2258	2034
35°	2209	2087	1881
40°	2083	1902	1712
45°	1964	1758	1547
50°	1818	1632	1380
55°	1682	1479	1236
60°	1541	1321	1107
65°	1356	1157	981
70°	1117	1013	833
75°	888	776	813
80°	597	559	522
85°	371	445	519

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1964 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.9	4.7
10°-20°	265.9	13.0
20°-30°	368.1	18.0
30°-40°	392.5	19.2
40°-50°	358.0	17.5
50°-60°	280.5	13.7
60°-70°	182.8	8.9
70°-80°	81.0	4.0
80°-90°	17.4	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°	730.8	35.8
0°-40°	1123.3	55.0
0°-60°	1761.8	86.2
0°-90°	2043.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2043.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1041	1041	1041	1041	1041	
5°	1023	1021	1021	1020	1020	97
15°	956	956	947	937	934	269
25°	829	824	811	782	760	381
35°	672	668	635	587	573	420
45°	516	505	462	424	407	398
55°	358	348	315	278	264	322
65°	213	201	182	185	154	210
75°	85	79	75	71	78	92
85°	12	13	14	16	17	17
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1040.7	1040.7	1040.7	1040.7	1040.7
2.5°	1033.5	1033.5	1033.5	1032.3	1032.3
5°	1022.6	1021.4	1021.4	1020.2	1020.2
7.5°	1014.2	1013.0	1011.8	1010.6	1008.2
10°	1002.2	1002.2	1001.0	995.0	993.8
12.5°	982.9	981.7	976.9	968.5	966.1
15°	956.5	956.5	946.8	937.2	933.6
17.5°	927.6	926.4	914.4	904.7	899.9
20°	896.3	893.9	881.9	866.2	857.8
22.5°	861.4	861.4	847.0	826.5	818.1
25°	828.9	824.1	810.9	782.0	760.4
27.5°	791.6	784.4	770.0	729.1	703.8
30°	750.7	747.1	726.7	673.7	654.5
32.5°	712.2	706.2	684.6	629.2	613.6
35°	672.5	667.7	635.2	587.1	572.7
37.5°	632.8	626.8	585.9	547.4	529.4
40°	593.1	585.9	541.4	506.5	487.3
42.5°	555.8	546.2	502.9	465.6	443.9
45°	516.1	505.3	462.0	423.5	406.6
47.5°	476.4	466.8	427.1	387.4	368.1
50°	434.3	425.9	389.8	350.1	329.6
52.5°	399.4	386.2	351.3	311.6	294.8
55°	358.5	347.7	315.2	277.9	263.5
57.5°	321.2	310.4	280.3	245.4	233.4
60°	286.3	270.7	245.4	215.4	205.7
62.5°	247.8	235.8	214.2	188.9	200.9
65°	212.9	200.9	181.7	185.3	154.0
67.5°	174.4	168.4	151.6	134.7	129.9
70°	142.0	134.7	128.7	110.7	105.9
72.5°	113.1	105.9	97.5	87.8	84.2
75°	85.4	79.4	74.6	71.0	78.2
77.5°	59.0	56.5	52.9	49.3	48.1
80°	38.5	37.3	36.1	34.9	33.7
82.5°	22.9	22.9	22.9	22.9	22.9
85°	12.0	13.2	14.4	15.6	16.8
87.5°	7.2	7.2	8.4	9.6	10.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)