

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: P560929

Luminaire Tested: FSR-12-4-LD4-1HI-50-UNV-93-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560929
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-LD4-1HI-50-UNV-93-84-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4193.0 lumens
Efficiency: N/A
Efficacy: 97.1 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

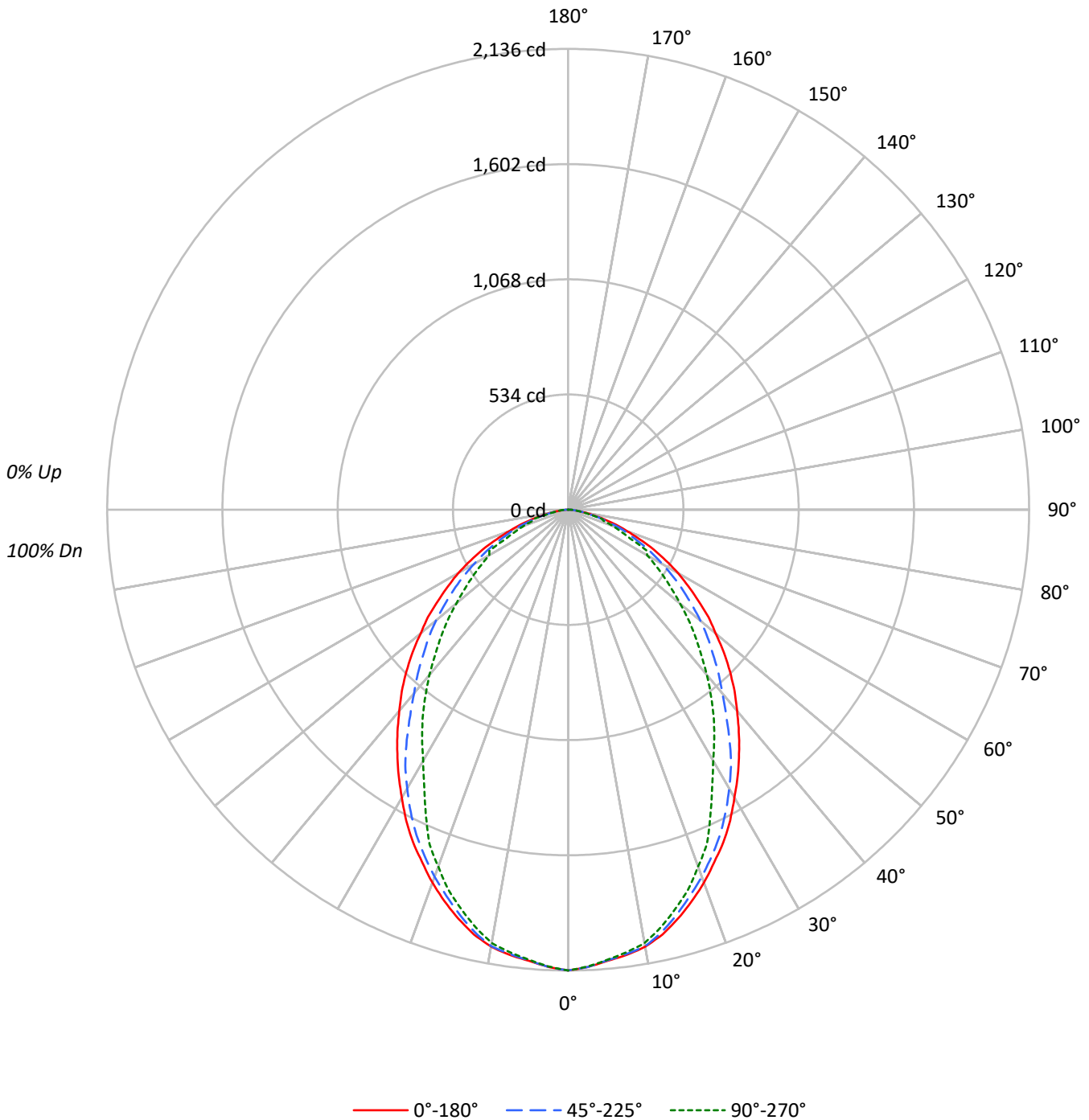
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5748	5748	5748
5°	5669	5663	5656
10°	5620	5614	5573
15°	5469	5414	5338
20°	5268	5183	5042
25°	5051	4941	4633
30°	4788	4634	4174
35°	4534	4283	3861
40°	4276	3903	3513
45°	4031	3608	3176
50°	3732	3349	2833
55°	3452	3035	2537
60°	3163	2711	2272
65°	2783	2374	2013
70°	2293	2079	1710
75°	1823	1592	1669
80°	1224	1148	1071
85°	763	914	1068

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4031 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	198.8	4.7
10°-20°	545.6	13.0
20°-30°	755.4	18.0
30°-40°	805.5	19.2
40°-50°	734.8	17.5
50°-60°	575.7	13.7
60°-70°	375.2	8.9
70°-80°	166.2	4.0
80°-90°	35.7	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°	1499.9	35.8
0°-40°	2305.4	55.0
0°-60°	3615.9	86.2
0°-90°	4193.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4193.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2136	2136	2136	2136	2136	
5°	2099	2096	2096	2094	2094	199
15°	1963	1963	1943	1924	1916	552
25°	1701	1691	1664	1605	1560	781
35°	1380	1370	1304	1205	1175	863
45°	1059	1037	948	869	835	816
55°	736	714	647	570	541	660
65°	437	412	373	380	316	431
75°	175	163	153	146	160	188
85°	25	27	30	32	35	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2135.9	2135.9	2135.9	2135.9	2135.9
2.5°	2121.0	2121.0	2121.0	2118.6	2118.6
5°	2098.8	2096.4	2096.4	2093.9	2093.9
7.5°	2081.5	2079.1	2076.6	2074.1	2069.2
10°	2056.8	2056.8	2054.4	2042.0	2039.6
12.5°	2017.3	2014.9	2005.0	1987.7	1982.8
15°	1963.0	1963.0	1943.3	1923.5	1916.1
17.5°	1903.8	1901.3	1876.6	1856.8	1847.0
20°	1839.6	1834.6	1809.9	1777.8	1760.5
22.5°	1767.9	1767.9	1738.3	1696.3	1679.1
25°	1701.3	1691.4	1664.2	1605.0	1560.5
27.5°	1624.7	1609.9	1580.3	1496.3	1444.5
30°	1540.8	1533.4	1491.4	1382.8	1343.2
32.5°	1461.8	1449.4	1405.0	1291.4	1259.3
35°	1380.3	1370.4	1303.7	1205.0	1175.3
37.5°	1298.8	1286.5	1202.5	1123.5	1086.4
40°	1217.3	1202.5	1111.1	1039.5	1000.0
42.5°	1140.8	1121.0	1032.1	955.6	911.1
45°	1059.3	1037.1	948.2	869.2	834.6
47.5°	977.8	958.0	876.6	795.1	755.6
50°	891.4	874.1	800.0	718.5	676.6
52.5°	819.8	792.6	721.0	639.5	605.0
55°	735.8	713.6	646.9	570.4	540.8
57.5°	659.3	637.1	575.3	503.7	479.0
60°	587.7	555.6	503.7	442.0	422.2
62.5°	508.7	484.0	439.5	387.7	412.4
65°	437.0	412.4	372.8	380.3	316.1
67.5°	358.0	345.7	311.1	276.6	266.7
70°	291.4	276.6	264.2	227.2	217.3
72.5°	232.1	217.3	200.0	180.3	172.8
75°	175.3	163.0	153.1	145.7	160.5
77.5°	121.0	116.1	108.6	101.2	98.8
80°	79.0	76.5	74.1	71.6	69.1
82.5°	46.9	46.9	46.9	46.9	46.9
85°	24.7	27.2	29.6	32.1	34.6
87.5°	14.8	14.8	17.3	19.8	22.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)