

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: P560865

Luminaire Tested: FSR-12-4-LD4-1HI-40-UNV-93-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560865
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-40-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4123.0 lumens
Efficiency: N/A
Efficacy: 95.4 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

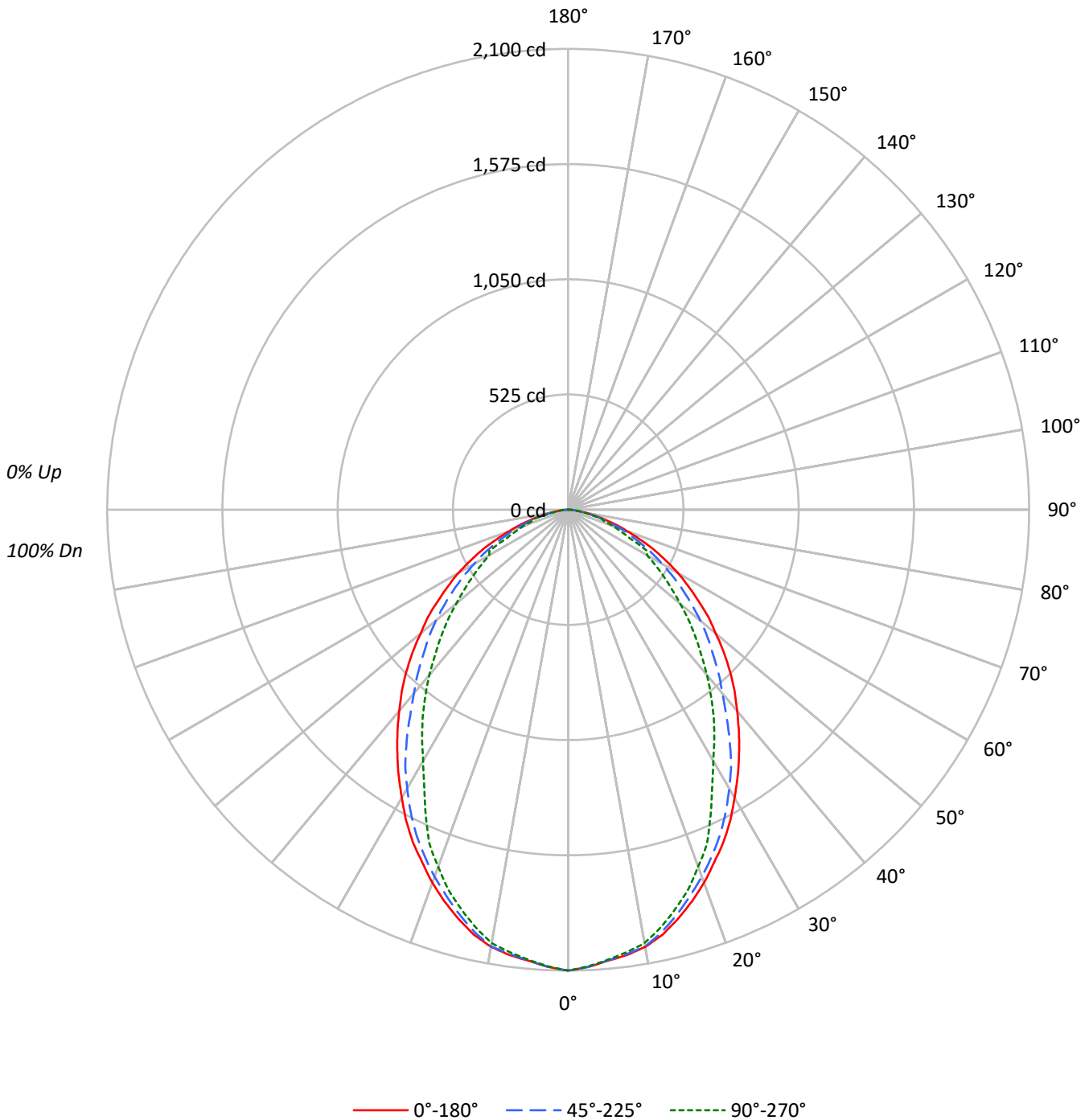
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	5652	5652	5652
5°	5575	5568	5562
10°	5526	5520	5480
15°	5377	5323	5249
20°	5180	5096	4957
25°	4967	4859	4556
30°	4708	4557	4104
35°	4459	4211	3797
40°	4205	3838	3454
45°	3964	3548	3123
50°	3669	3293	2785
55°	3394	2984	2495
60°	3110	2666	2235
65°	2737	2334	1979
70°	2254	2044	1681
75°	1792	1565	1641
80°	1204	1128	1054
85°	750	898	1050

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3964 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	195.5	4.7
10°-20°	536.5	13.0
20°-30°	742.8	18.0
30°-40°	792.0	19.2
40°-50°	722.6	17.5
50°-60°	566.1	13.7
60°-70°	368.9	8.9
70°-80°	163.5	4.0
80°-90°	35.1	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°	1474.8	35.8
0°-40°	2266.9	55.0
0°-60°	3555.5	86.2
0°-90°	4123.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4123.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2100	2100	2100	2100	2100	
5°	2064	2061	2061	2059	2059	196
15°	1930	1930	1911	1891	1884	543
25°	1673	1663	1636	1578	1534	768
35°	1357	1348	1282	1185	1156	849
45°	1042	1020	932	855	821	802
55°	724	702	636	561	532	649
65°	430	406	367	374	311	424
75°	172	160	150	143	158	185
85°	24	27	29	32	34	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2100.2	2100.2	2100.2	2100.2	2100.2
2.5°	2085.6	2085.6	2085.6	2083.2	2083.2
5°	2063.8	2061.4	2061.4	2058.9	2058.9
7.5°	2046.8	2044.4	2041.9	2039.5	2034.6
10°	2022.5	2022.5	2020.1	2007.9	2005.5
12.5°	1983.7	1981.2	1971.5	1954.5	1949.7
15°	1930.2	1930.2	1910.8	1891.4	1884.1
17.5°	1872.0	1869.5	1845.3	1825.8	1816.1
20°	1808.8	1804.0	1779.7	1748.1	1731.1
22.5°	1738.4	1738.4	1709.3	1668.0	1651.0
25°	1672.9	1663.2	1636.5	1578.2	1534.5
27.5°	1597.6	1583.0	1553.9	1471.4	1420.4
30°	1515.1	1507.8	1466.5	1359.7	1320.8
32.5°	1437.4	1425.2	1381.5	1269.8	1238.3
35°	1357.2	1347.5	1282.0	1184.9	1155.7
37.5°	1277.1	1265.0	1182.4	1104.7	1068.3
40°	1197.0	1182.4	1092.6	1022.2	983.3
42.5°	1121.7	1102.3	1014.9	939.6	895.9
45°	1041.6	1019.8	932.3	854.6	820.7
47.5°	961.5	942.1	861.9	781.8	743.0
50°	876.5	859.5	786.7	706.5	665.3
52.5°	806.1	779.4	709.0	628.8	594.9
55°	723.5	701.7	636.1	560.9	531.7
57.5°	648.3	626.4	565.7	495.3	471.0
60°	577.9	546.3	495.3	434.6	415.2
62.5°	500.2	475.9	432.2	381.2	405.5
65°	429.8	405.5	366.6	373.9	310.8
67.5°	352.1	339.9	305.9	271.9	262.2
70°	286.5	271.9	259.8	223.4	213.7
72.5°	228.2	213.7	196.7	177.2	170.0
75°	172.4	160.2	150.5	143.3	157.8
77.5°	119.0	114.1	106.8	99.5	97.1
80°	77.7	75.3	72.8	70.4	68.0
82.5°	46.1	46.1	46.1	46.1	46.1
85°	24.3	26.7	29.1	31.6	34.0
87.5°	14.6	14.6	17.0	19.4	21.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)