

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: P561582

Luminaire Tested: FSR-12-4-LD4-2LO-35-UNV-93-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561582
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-LD4-2LO-35-UNV-93-97-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3975.0 lumens
Efficiency: N/A
Efficacy: 84.9 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

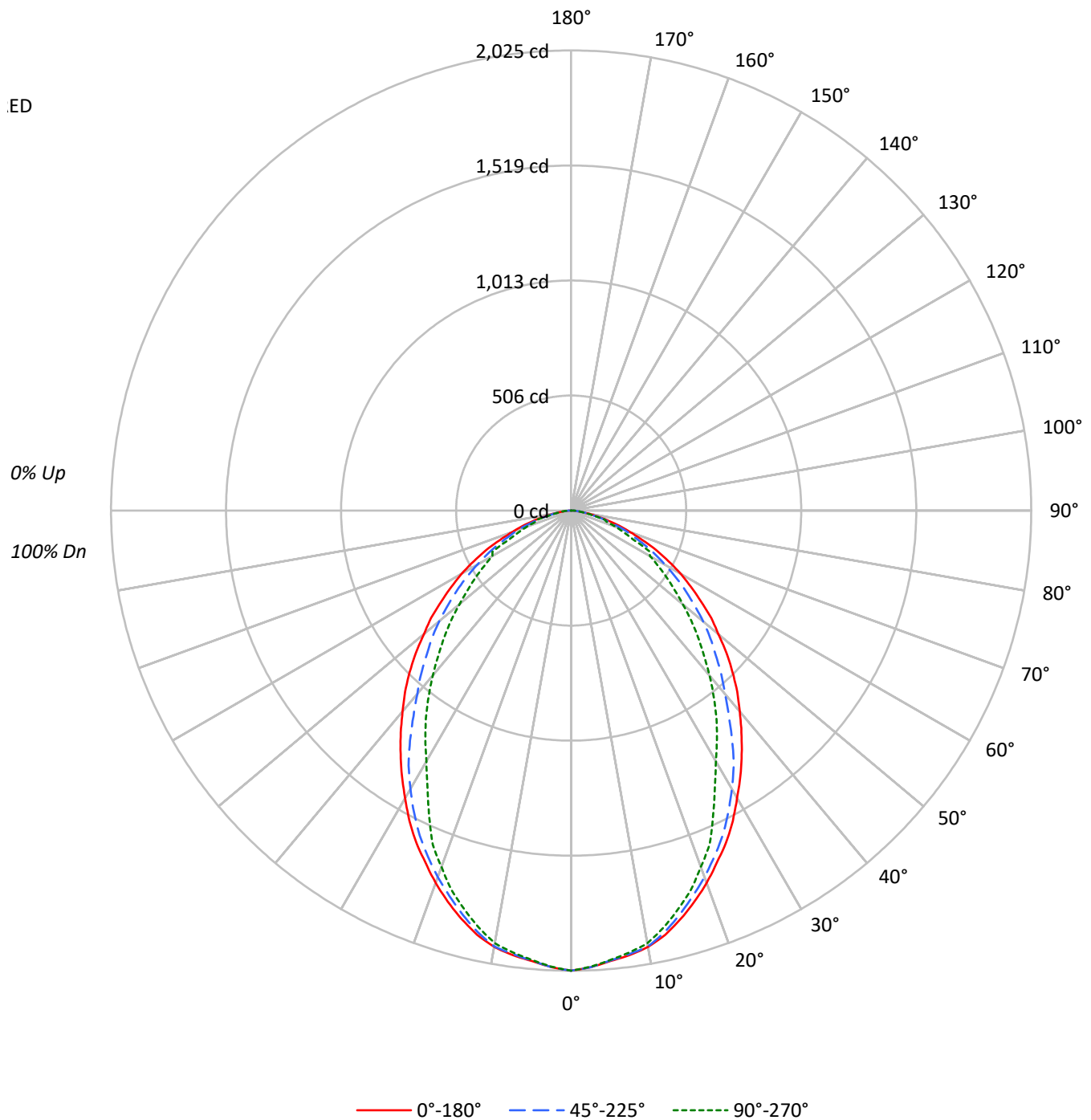
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	5449	5449	5449
5°	5375	5368	5362
10°	5328	5322	5283
15°	5185	5132	5061
20°	4994	4914	4779
25°	4789	4684	4393
30°	4539	4393	3957
35°	4299	4060	3660
40°	4054	3700	3330
45°	3822	3421	3011
50°	3538	3175	2685
55°	3273	2877	2405
60°	2998	2570	2154
65°	2638	2251	1908
70°	2173	1971	1621
75°	1728	1509	1582
80°	1161	1088	1015
85°	722	868	1013

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3822 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	188.5	4.7
10°-20°	517.3	13.0
20°-30°	716.1	18.0
30°-40°	763.6	19.2
40°-50°	696.6	17.5
50°-60°	545.7	13.7
60°-70°	355.7	8.9
70°-80°	157.6	4.0
80°-90°	33.8	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°	1421.9	35.8
0°-40°	2185.5	55.0
0°-60°	3427.9	86.2
0°-90°	3975.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3975.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2025	2025	2025	2025	2025	
5°	1990	1987	1987	1985	1985	189
15°	1861	1861	1842	1824	1816	523
25°	1613	1604	1578	1522	1479	740
35°	1308	1299	1236	1142	1114	818
45°	1004	983	899	824	791	774
55°	698	676	613	541	513	626
65°	414	391	354	360	300	408
75°	166	154	145	138	152	178
85°	23	26	28	30	33	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2024.8	2024.8	2024.8	2024.8	2024.8
2.5°	2010.8	2010.8	2010.8	2008.4	2008.4
5°	1989.7	1987.4	1987.4	1985.0	1985.0
7.5°	1973.3	1971.0	1968.6	1966.3	1961.6
10°	1949.9	1949.9	1947.6	1935.9	1933.5
12.5°	1912.5	1910.1	1900.7	1884.4	1879.7
15°	1861.0	1861.0	1842.2	1823.5	1816.5
17.5°	1804.8	1802.4	1779.0	1760.3	1750.9
20°	1743.9	1739.2	1715.8	1685.4	1669.0
22.5°	1676.0	1676.0	1647.9	1608.1	1591.8
25°	1612.8	1603.5	1577.7	1521.5	1479.4
27.5°	1540.3	1526.2	1498.1	1418.5	1369.4
30°	1460.7	1453.7	1413.9	1310.9	1273.4
32.5°	1385.8	1374.1	1331.9	1224.3	1193.8
35°	1308.5	1299.2	1236.0	1142.3	1114.2
37.5°	1231.3	1219.6	1140.0	1065.1	1030.0
40°	1154.0	1140.0	1053.4	985.5	948.0
42.5°	1081.5	1062.7	978.5	905.9	863.8
45°	1004.2	983.1	898.9	824.0	791.2
47.5°	927.0	908.2	831.0	753.7	716.3
50°	845.0	828.7	758.4	681.2	641.4
52.5°	777.2	751.4	683.5	606.3	573.5
55°	697.6	676.5	613.3	540.7	512.6
57.5°	625.0	603.9	545.4	477.5	454.1
60°	557.1	526.7	477.5	419.0	400.3
62.5°	482.2	458.8	416.7	367.5	390.9
65°	414.3	390.9	353.5	360.5	299.6
67.5°	339.4	327.7	294.9	262.2	252.8
70°	276.2	262.2	250.5	215.4	206.0
72.5°	220.0	206.0	189.6	170.9	163.9
75°	166.2	154.5	145.1	138.1	152.2
77.5°	114.7	110.0	103.0	96.0	93.6
80°	74.9	72.6	70.2	67.9	65.5
82.5°	44.5	44.5	44.5	44.5	44.5
85°	23.4	25.7	28.1	30.4	32.8
87.5°	14.0	14.0	16.4	18.7	21.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)