

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: P561550

Luminaire Tested: FSR-12-4-LD4-2LO-35-UNV-81-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561550
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-81-97-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3768.0 lumens
Efficiency: N/A
Efficacy: 80.5 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

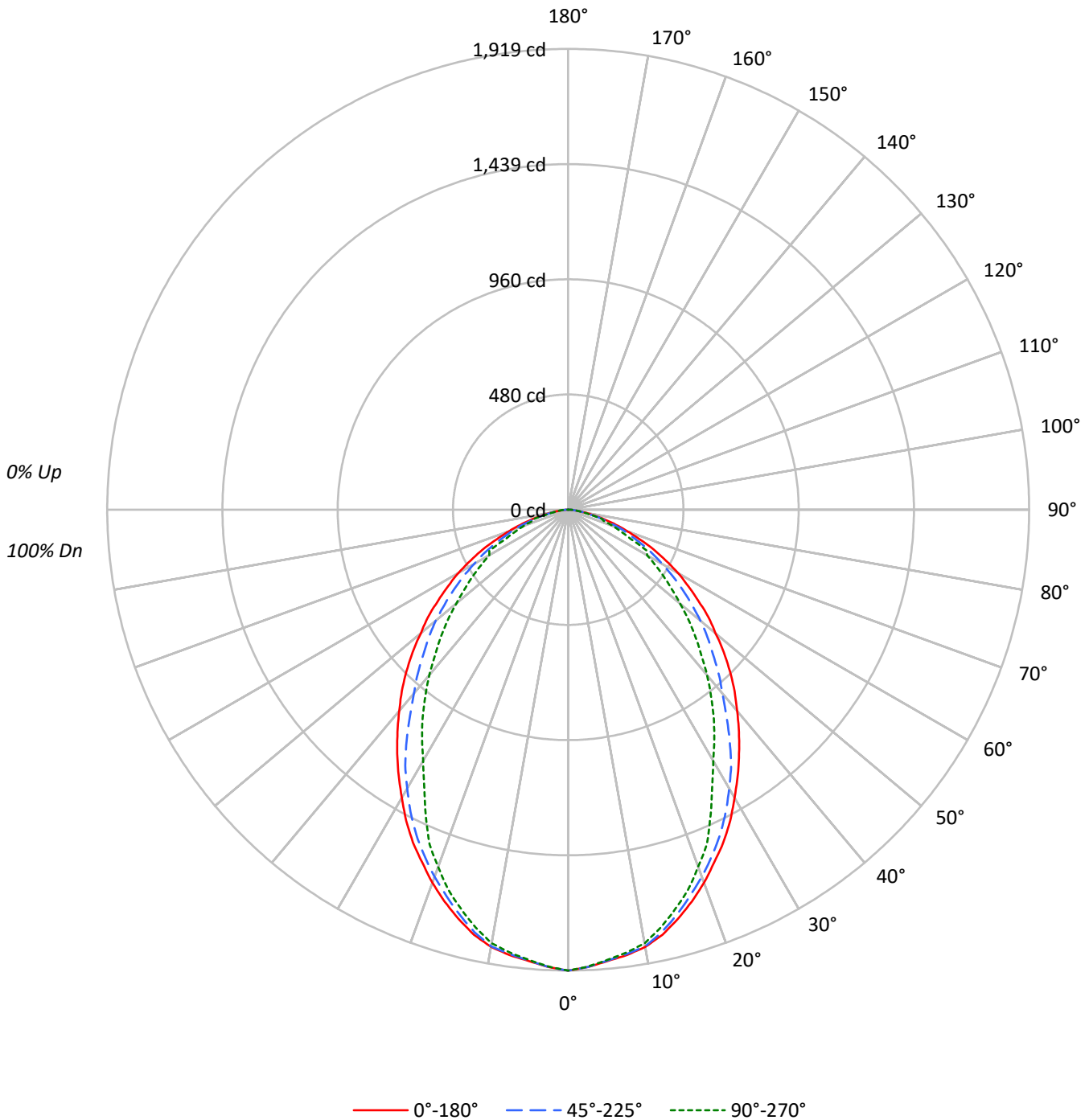
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	5165	5165	5165
5°	5095	5089	5083
10°	5051	5044	5008
15°	4914	4865	4797
20°	4734	4658	4531
25°	4539	4441	4164
30°	4302	4164	3751
35°	4075	3849	3470
40°	3843	3508	3157
45°	3623	3243	2854
50°	3353	3010	2545
55°	3102	2728	2280
60°	2842	2436	2042
65°	2500	2134	1808
70°	2060	1868	1537
75°	1638	1431	1499
80°	1100	1032	962
85°	685	821	960

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3623 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	178.7	4.7
10°-20°	490.3	13.0
20°-30°	678.8	18.0
30°-40°	723.8	19.2
40°-50°	660.3	17.5
50°-60°	517.3	13.7
60°-70°	337.2	8.9
70°-80°	149.4	4.0
80°-90°	32.1	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°	1347.8	35.8
0°-40°	2071.7	55.0
0°-60°	3249.4	86.2
0°-90°	3768.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3768.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1919	1919	1919	1919	1919	
5°	1886	1884	1884	1882	1882	179
15°	1764	1764	1746	1728	1722	496
25°	1529	1520	1496	1442	1402	702
35°	1240	1232	1172	1083	1056	775
45°	952	932	852	781	750	733
55°	661	641	581	513	486	593
65°	393	371	335	342	284	387
75°	158	146	138	131	144	169
85°	22	24	27	29	31	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1919.4	1919.4	1919.4	1919.4	1919.4
2.5°	1906.1	1906.1	1906.1	1903.8	1903.8
5°	1886.1	1883.9	1883.9	1881.6	1881.6
7.5°	1870.6	1868.3	1866.1	1863.9	1859.5
10°	1848.4	1848.4	1846.1	1835.0	1832.8
12.5°	1812.9	1810.6	1801.8	1786.2	1781.8
15°	1764.0	1764.0	1746.3	1728.5	1721.9
17.5°	1710.8	1708.6	1686.4	1668.6	1659.8
20°	1653.1	1648.7	1626.5	1597.6	1582.1
22.5°	1588.7	1588.7	1562.1	1524.4	1508.9
25°	1528.8	1520.0	1495.6	1442.3	1402.4
27.5°	1460.1	1446.7	1420.1	1344.7	1298.1
30°	1384.6	1378.0	1340.2	1242.6	1207.1
32.5°	1313.6	1302.5	1262.6	1160.5	1131.7
35°	1240.4	1231.5	1171.6	1082.8	1056.2
37.5°	1167.2	1156.1	1080.6	1009.6	976.3
40°	1093.9	1080.6	998.5	934.2	898.7
42.5°	1025.1	1007.4	927.5	858.7	818.8
45°	951.9	931.9	852.1	781.1	750.0
47.5°	878.7	860.9	787.7	714.5	679.0
50°	801.0	785.5	718.9	645.7	608.0
52.5°	736.7	712.3	647.9	574.7	543.6
55°	661.2	641.3	581.4	512.6	485.9
57.5°	592.5	572.5	517.0	452.7	430.5
60°	528.1	499.3	452.7	397.2	379.4
62.5°	457.1	434.9	395.0	348.4	370.6
65°	392.7	370.6	335.1	341.7	284.0
67.5°	321.7	310.6	279.6	248.5	239.6
70°	261.8	248.5	237.4	204.1	195.3
72.5°	208.6	195.3	179.7	162.0	155.3
75°	157.5	146.4	137.6	130.9	144.2
77.5°	108.7	104.3	97.6	91.0	88.8
80°	71.0	68.8	66.6	64.3	62.1
82.5°	42.2	42.2	42.2	42.2	42.2
85°	22.2	24.4	26.6	28.8	31.1
87.5°	13.3	13.3	15.5	17.8	20.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)