

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: P561556

Luminaire Tested: FSR-12-4-LD4-2LO-35-UNV-82-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561556
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-82-86-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3741.0 lumens
Efficiency: N/A
Efficacy: 79.9 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

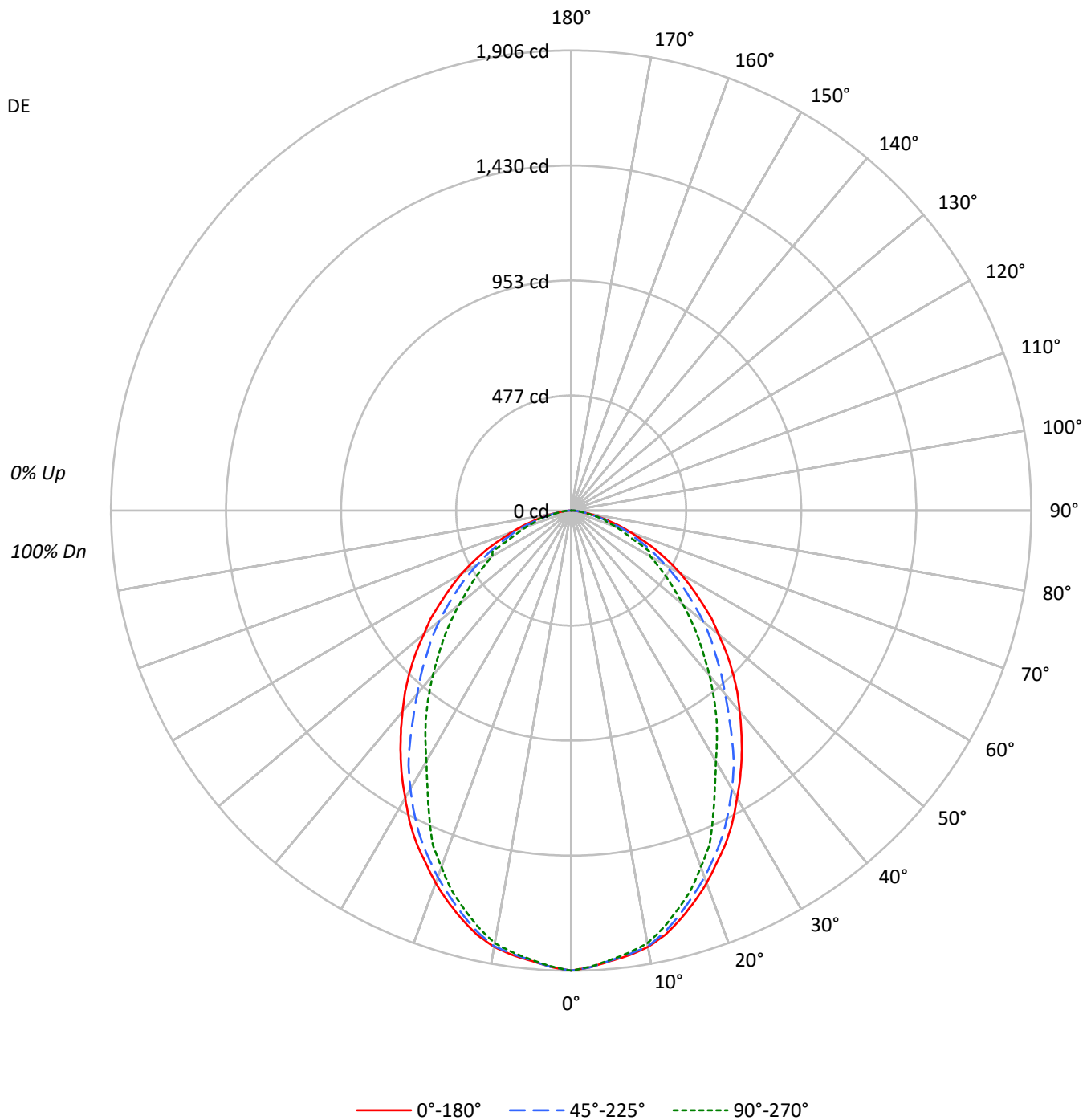
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5128	5128	5128
5°	5058	5052	5046
10°	5014	5008	4972
15°	4879	4830	4763
20°	4700	4624	4498
25°	4507	4409	4134
30°	4272	4135	3724
35°	4046	3821	3445
40°	3815	3483	3134
45°	3597	3220	2834
50°	3329	2988	2527
55°	3080	2708	2264
60°	2822	2419	2027
65°	2483	2118	1796
70°	2046	1854	1526
75°	1626	1420	1489
80°	1093	1024	956
85°	679	815	951

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3597 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	177.4	4.7
10°-20°	486.8	13.0
20°-30°	674.0	18.0
30°-40°	718.7	19.2
40°-50°	655.6	17.5
50°-60°	513.6	13.7
60°-70°	334.8	8.9
70°-80°	148.3	4.0
80°-90°	31.8	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°	1338.2	35.8
0°-40°	2056.8	55.0
0°-60°	3226.1	86.2
0°-90°	3741.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3741.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1906	1906	1906	1906	1906	
5°	1873	1870	1870	1868	1868	178
15°	1751	1751	1734	1716	1710	492
25°	1518	1509	1485	1432	1392	697
35°	1232	1223	1163	1075	1049	770
45°	945	925	846	776	745	728
55°	656	637	577	509	482	589
65°	390	368	333	339	282	384
75°	156	145	137	130	143	168
85°	22	24	26	29	31	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1905.6	1905.6	1905.6	1905.6	1905.6
2.5°	1892.4	1892.4	1892.4	1890.2	1890.2
5°	1872.6	1870.4	1870.4	1868.2	1868.2
7.5°	1857.1	1854.9	1852.7	1850.5	1846.1
10°	1835.1	1835.1	1832.9	1821.9	1819.7
12.5°	1799.9	1797.7	1788.9	1773.4	1769.0
15°	1751.4	1751.4	1733.8	1716.2	1709.5
17.5°	1698.5	1696.3	1674.3	1656.7	1647.9
20°	1641.3	1636.8	1614.8	1586.2	1570.8
22.5°	1577.4	1577.4	1550.9	1513.5	1498.1
25°	1517.9	1509.1	1484.8	1432.0	1392.3
27.5°	1449.6	1436.4	1409.9	1335.0	1288.8
30°	1374.7	1368.1	1330.6	1233.7	1198.4
32.5°	1304.2	1293.2	1253.5	1152.2	1123.5
35°	1231.5	1222.7	1163.2	1075.1	1048.6
37.5°	1158.8	1147.8	1072.9	1002.4	969.3
40°	1086.1	1072.9	991.4	927.5	892.2
42.5°	1017.8	1000.2	920.9	852.6	812.9
45°	945.1	925.3	846.0	775.5	744.6
47.5°	872.4	854.8	782.1	709.4	674.1
50°	795.3	779.9	713.8	641.1	603.6
52.5°	731.4	707.2	643.3	570.6	539.7
55°	656.5	636.7	577.2	508.9	482.5
57.5°	588.2	568.4	513.3	449.4	427.4
60°	524.3	495.7	449.4	394.3	376.7
62.5°	453.8	431.8	392.1	345.9	367.9
65°	389.9	367.9	332.7	339.3	282.0
67.5°	319.4	308.4	277.6	246.7	237.9
70°	260.0	246.7	235.7	202.7	193.9
72.5°	207.1	193.9	178.4	160.8	154.2
75°	156.4	145.4	136.6	130.0	143.2
77.5°	107.9	103.5	96.9	90.3	88.1
80°	70.5	68.3	66.1	63.9	61.7
82.5°	41.9	41.9	41.9	41.9	41.9
85°	22.0	24.2	26.4	28.6	30.8
87.5°	13.2	13.2	15.4	17.6	19.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)