

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: P561173

Luminaire Tested: FSR-12-4-LD4-1STD-35-UNV-82-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561173
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-LD4-1STD-35-UNV-82-86-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2993.0 lumens
Efficiency: N/A
Efficacy: 89.9 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

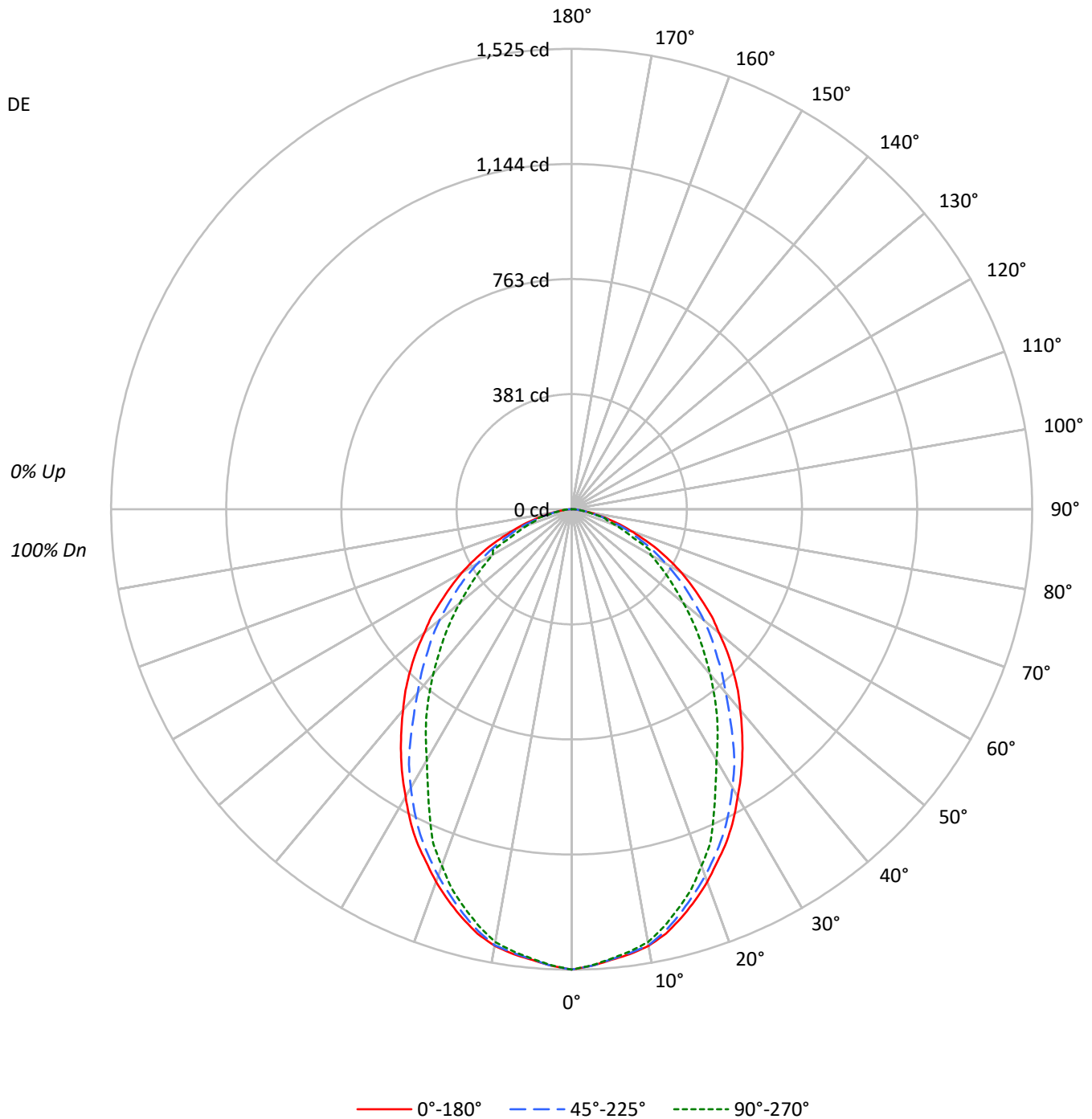
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4103	4103	4103
5°	4047	4042	4037
10°	4012	4007	3978
15°	3904	3864	3810
20°	3760	3700	3599
25°	3606	3527	3307
30°	3417	3308	2979
35°	3237	3057	2756
40°	3052	2786	2507
45°	2877	2576	2267
50°	2664	2391	2022
55°	2464	2167	1811
60°	2258	1935	1622
65°	1987	1694	1436
70°	1637	1484	1220
75°	1301	1136	1192
80°	874	820	766
85°	543	655	763

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2877 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.9	4.7
10°-20°	389.5	13.0
20°-30°	539.2	18.0
30°-40°	575.0	19.2
40°-50°	524.5	17.5
50°-60°	410.9	13.7
60°-70°	267.8	8.9
70°-80°	118.7	4.0
80°-90°	25.5	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°	1070.6	35.8
0°-40°	1645.6	55.0
0°-60°	2581.0	86.2
0°-90°	2993.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2993.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1525	1525	1525	1525	1525	
5°	1498	1496	1496	1495	1495	142
15°	1401	1401	1387	1373	1368	394
25°	1214	1207	1188	1146	1114	558
35°	985	978	931	860	839	616
45°	756	740	677	620	596	582
55°	525	509	462	407	386	471
65°	312	294	266	271	226	307
75°	125	116	109	104	115	134
85°	18	19	21	23	25	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1524.6	1524.6	1524.6	1524.6	1524.6
2.5°	1514.0	1514.0	1514.0	1512.3	1512.3
5°	1498.2	1496.4	1496.4	1494.6	1494.6
7.5°	1485.8	1484.1	1482.3	1480.5	1477.0
10°	1468.2	1468.2	1466.4	1457.6	1455.9
12.5°	1440.0	1438.2	1431.2	1418.8	1415.3
15°	1401.2	1401.2	1387.1	1373.0	1367.7
17.5°	1358.9	1357.2	1339.5	1325.4	1318.4
20°	1313.1	1309.6	1291.9	1269.0	1256.7
22.5°	1262.0	1262.0	1240.8	1210.9	1198.5
25°	1214.4	1207.3	1187.9	1145.6	1113.9
27.5°	1159.7	1149.2	1128.0	1068.1	1031.1
30°	1099.8	1094.5	1064.6	987.0	958.8
32.5°	1043.4	1034.6	1002.9	921.8	898.9
35°	985.3	978.2	930.6	860.1	839.0
37.5°	927.1	918.3	858.4	802.0	775.5
40°	868.9	858.4	793.1	742.0	713.8
42.5°	814.3	800.2	736.7	682.1	650.4
45°	756.1	740.3	676.8	620.4	595.7
47.5°	698.0	683.9	625.7	567.5	539.3
50°	636.3	623.9	571.1	512.9	482.9
52.5°	585.2	565.8	514.7	456.5	431.8
55°	525.2	509.4	461.8	407.1	386.0
57.5°	470.6	454.7	410.7	359.6	341.9
60°	419.5	396.6	359.6	315.5	301.4
62.5°	363.1	345.5	313.7	276.7	294.3
65°	312.0	294.3	266.1	271.4	225.6
67.5°	255.6	246.8	222.1	197.4	190.4
70°	208.0	197.4	188.6	162.2	155.1
72.5°	165.7	155.1	142.8	128.7	123.4
75°	125.1	116.3	109.3	104.0	114.6
77.5°	86.4	82.8	77.6	72.3	70.5
80°	56.4	54.6	52.9	51.1	49.4
82.5°	33.5	33.5	33.5	33.5	33.5
85°	17.6	19.4	21.2	22.9	24.7
87.5°	10.6	10.6	12.3	14.1	15.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)