

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: P562466

Luminaire Tested: FSR-24-4-LD4-1STD-50-UNV-93-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562466
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-24-4-LD4-1STD-50-UNV-93-85-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3425.0 lumens
Efficiency: N/A
Efficacy: 102.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

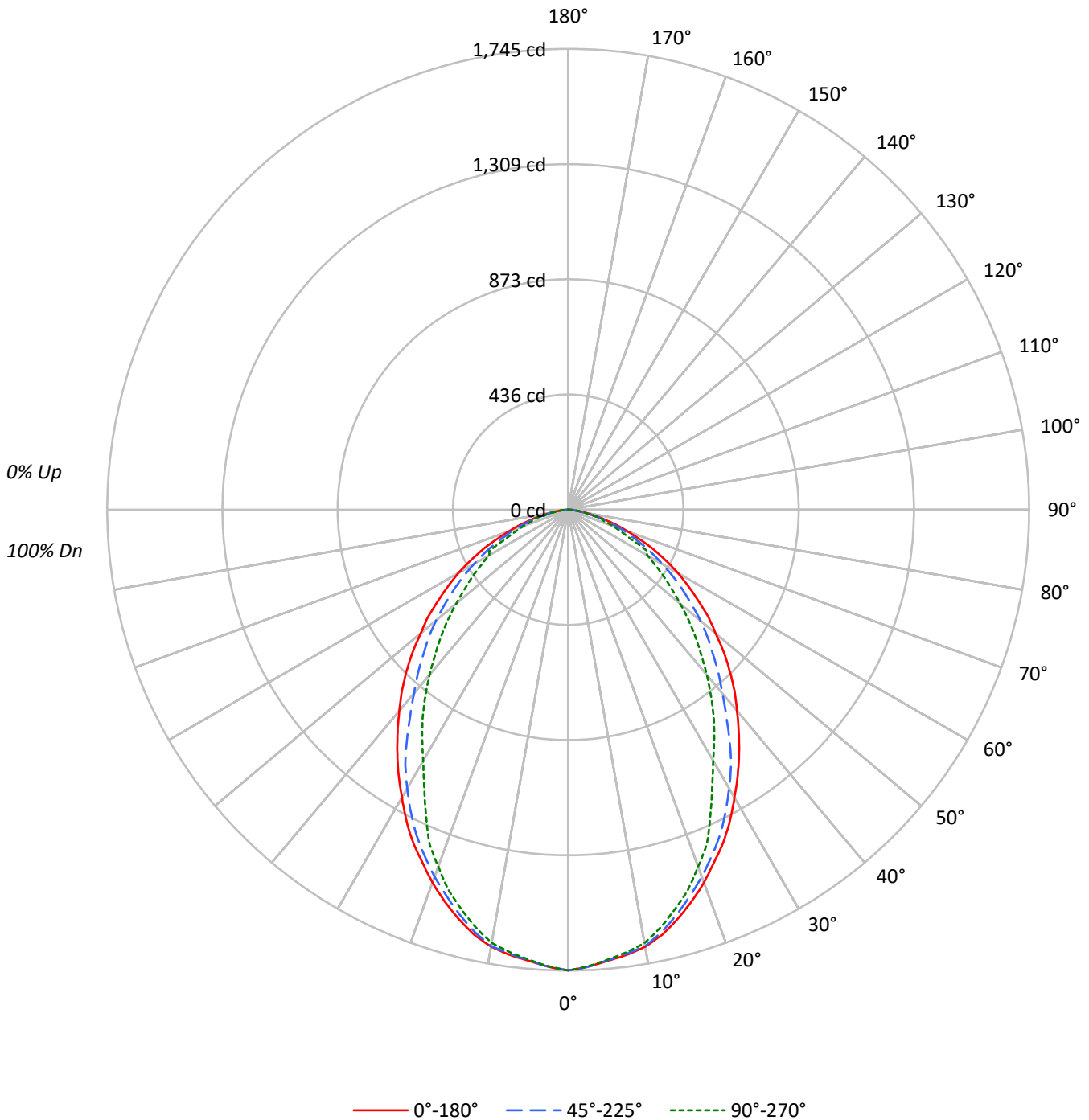
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	2347	2347	2347
5°	2316	2313	2310
10°	2295	2293	2276
15°	2234	2211	2180
20°	2151	2117	2059
25°	2063	2018	1892
30°	1955	1893	1705
35°	1852	1749	1577
40°	1746	1594	1435
45°	1647	1474	1297
50°	1524	1368	1157
55°	1410	1240	1036
60°	1292	1107	928
65°	1137	970	822
70°	936	849	698
75°	744	650	682
80°	500	469	438
85°	312	374	435

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1647 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.4	4.7
10°-20°	445.7	13.0
20°-30°	617.0	18.0
30°-40°	657.9	19.2
40°-50°	600.2	17.5
50°-60°	470.2	13.7
60°-70°	306.5	8.9
70°-80°	135.8	4.0
80°-90°	29.1	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°	1225.1	35.8
0°-40°	1883.1	55.0
0°-60°	2953.6	86.2
0°-90°	3425.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3425.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1745	1745	1745	1745	1745	
5°	1714	1712	1712	1710	1710	163
15°	1604	1604	1587	1571	1565	451
25°	1390	1382	1359	1311	1275	638
35°	1128	1119	1065	984	960	705
45°	865	847	774	710	682	667
55°	601	583	528	466	442	539
65°	357	337	305	311	258	352
75°	143	133	125	119	131	153
85°	20	22	24	26	28	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1744.6	1744.6	1744.6	1744.6	1744.6
2.5°	1732.5	1732.5	1732.5	1730.5	1730.5
5°	1714.4	1712.4	1712.4	1710.4	1710.4
7.5°	1700.3	1698.3	1696.2	1694.2	1690.2
10°	1680.1	1680.1	1678.1	1668.0	1666.0
12.5°	1647.8	1645.8	1637.8	1623.6	1619.6
15°	1603.5	1603.5	1587.3	1571.2	1565.1
17.5°	1555.1	1553.0	1532.9	1516.7	1508.7
20°	1502.6	1498.6	1478.4	1452.2	1438.1
22.5°	1444.1	1444.1	1419.9	1385.6	1371.5
25°	1389.7	1381.6	1359.4	1311.0	1274.7
27.5°	1327.1	1315.0	1290.8	1222.3	1179.9
30°	1258.6	1252.5	1218.2	1129.5	1097.2
32.5°	1194.0	1183.9	1147.6	1054.9	1028.6
35°	1127.5	1119.4	1064.9	984.3	960.1
37.5°	1060.9	1050.8	982.2	917.7	887.5
40°	994.3	982.2	907.6	849.1	816.9
42.5°	931.8	915.7	843.1	780.6	744.2
45°	865.3	847.1	774.5	710.0	681.7
47.5°	798.7	782.6	716.0	649.5	617.2
50°	728.1	714.0	653.5	586.9	552.6
52.5°	669.6	647.4	588.9	522.4	494.1
55°	601.0	582.9	528.4	465.9	441.7
57.5°	538.5	520.4	469.9	411.5	391.3
60°	480.0	453.8	411.5	361.0	344.9
62.5°	415.5	395.3	359.0	316.7	336.8
65°	357.0	336.8	304.6	310.6	258.2
67.5°	292.5	282.4	254.1	225.9	217.8
70°	238.0	225.9	215.8	185.6	177.5
72.5°	189.6	177.5	163.4	147.2	141.2
75°	143.2	133.1	125.1	119.0	131.1
77.5°	98.8	94.8	88.7	82.7	80.7
80°	64.5	62.5	60.5	58.5	56.5
82.5°	38.3	38.3	38.3	38.3	38.3
85°	20.2	22.2	24.2	26.2	28.2
87.5°	12.1	12.1	14.1	16.1	18.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)