

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: P562351

Luminaire Tested: FSR-24-4-LD4-1STD-35-UNV-93-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562351
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-35-UNV-93-97-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3737.0 lumens
Efficiency: N/A
Efficacy: 112.2 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

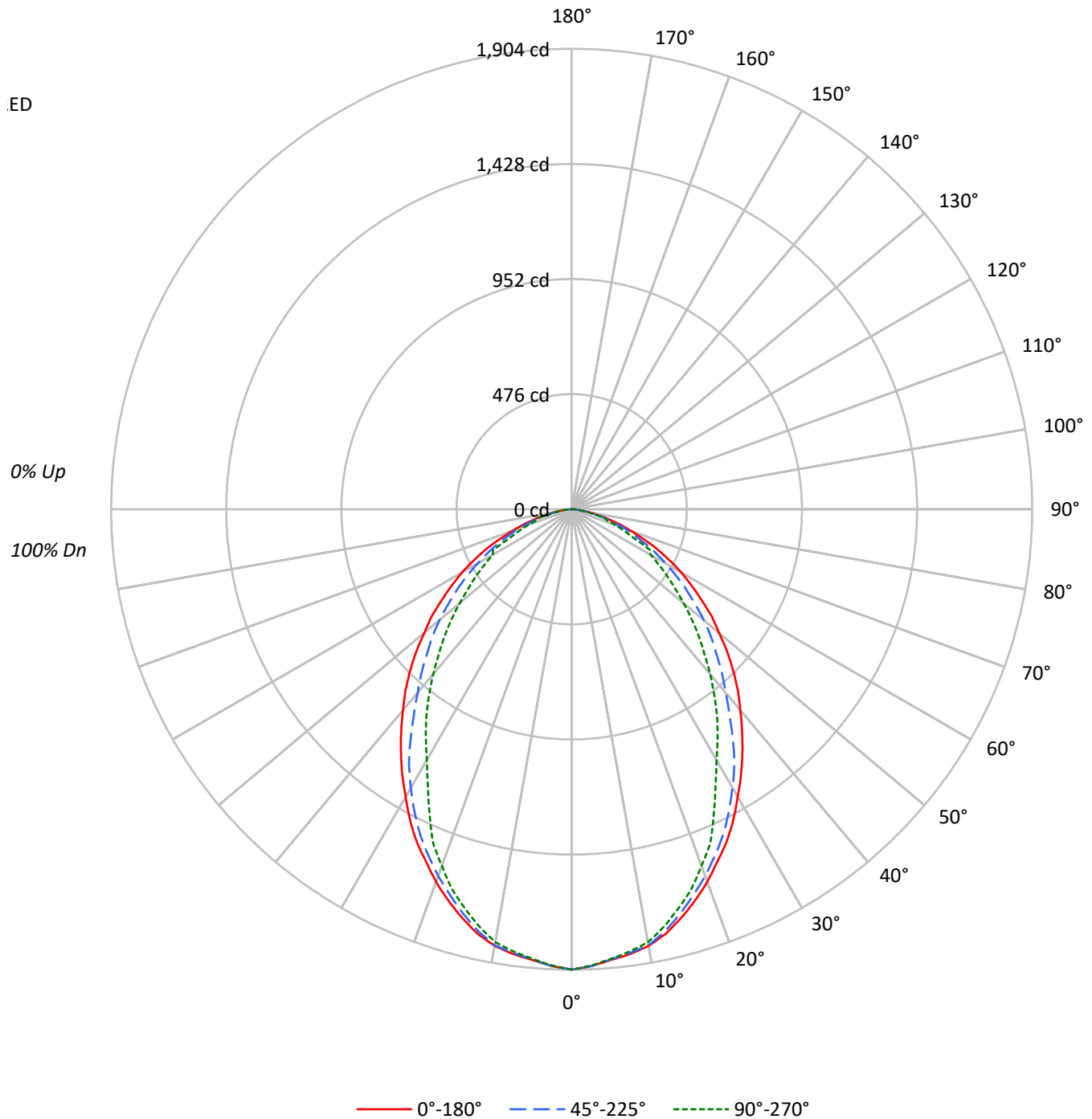
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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									100																			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87									87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75									75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65									65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56									56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50									50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44									44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40									40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36									36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33									33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30									30																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2561	2561	2561
5°	2526	2524	2521
10°	2505	2502	2484
15°	2437	2412	2379
20°	2348	2310	2247
25°	2251	2202	2065
30°	2133	2065	1860
35°	2021	1909	1721
40°	1906	1739	1565
45°	1796	1608	1415
50°	1663	1492	1262
55°	1538	1353	1130
60°	1410	1208	1013
65°	1240	1058	897
70°	1022	926	762
75°	812	709	743
80°	545	511	477
85°	340	408	475

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1796 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	177.2	4.7
10°-20°	486.3	13.0
20°-30°	673.3	18.0
30°-40°	717.9	19.2
40°-50°	654.9	17.5
50°-60°	513.1	13.7
60°-70°	334.4	8.9
70°-80°	148.1	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°	1336.8	35.8
0°-40°	2054.6	55.0
0°-60°	3222.6	86.2
0°-90°	3737.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3737.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1904	1904	1904	1904	1904	
5°	1871	1868	1868	1866	1866	178
15°	1750	1750	1732	1714	1708	492
25°	1516	1508	1483	1430	1391	696
35°	1230	1221	1162	1074	1048	769
45°	944	924	845	775	744	727
55°	656	636	577	508	482	588
65°	390	368	332	339	282	384
75°	156	145	136	130	143	167
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°	1903.6	1903.6	1903.6	1903.6	1903.6
2.5°	1890.4	1890.4	1890.4	1888.2	1888.2
5°	1870.6	1868.4	1868.4	1866.2	1866.2
7.5°	1855.2	1853.0	1850.8	1848.6	1844.2
10°	1833.2	1833.2	1831.0	1820.0	1817.8
12.5°	1797.9	1795.7	1786.9	1771.5	1767.1
15°	1749.5	1749.5	1731.9	1714.3	1707.7
17.5°	1696.7	1694.5	1672.5	1654.9	1646.1
20°	1639.5	1635.1	1613.1	1584.5	1569.1
22.5°	1575.7	1575.7	1549.3	1511.9	1496.5
25°	1516.3	1507.5	1483.3	1430.4	1390.8
27.5°	1448.0	1434.8	1408.4	1333.6	1287.4
30°	1373.2	1366.6	1329.2	1232.4	1197.2
32.5°	1302.8	1291.8	1252.2	1150.9	1122.3
35°	1230.2	1221.4	1162.0	1073.9	1047.5
37.5°	1157.6	1146.5	1071.7	1001.3	968.3
40°	1084.9	1071.7	990.3	926.5	891.3
42.5°	1016.7	999.1	919.9	851.7	812.0
45°	944.1	924.3	845.1	774.6	743.8
47.5°	871.5	853.9	781.2	708.6	673.4
50°	794.4	779.0	713.0	640.4	603.0
52.5°	730.6	706.4	642.6	570.0	539.2
55°	655.8	636.0	576.6	508.4	481.9
57.5°	587.6	567.8	512.8	448.9	426.9
60°	523.8	495.2	448.9	393.9	376.3
62.5°	453.3	431.3	391.7	345.5	367.5
65°	389.5	367.5	332.3	338.9	281.7
67.5°	319.1	308.1	277.3	246.5	237.7
70°	259.7	246.5	235.5	202.5	193.7
72.5°	206.9	193.7	178.3	160.6	154.0
75°	156.2	145.2	136.4	129.8	143.0
77.5°	107.8	103.4	96.8	90.2	88.0
80°	70.4	68.2	66.0	63.8	61.6
82.5°	41.8	41.8	41.8	41.8	41.8
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)