

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: P562415

Luminaire Tested: FSR-24-4-LD4-1STD-40-UNV-93-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562415
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-40-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3774.0 lumens
Efficiency: N/A
Efficacy: 113.3 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

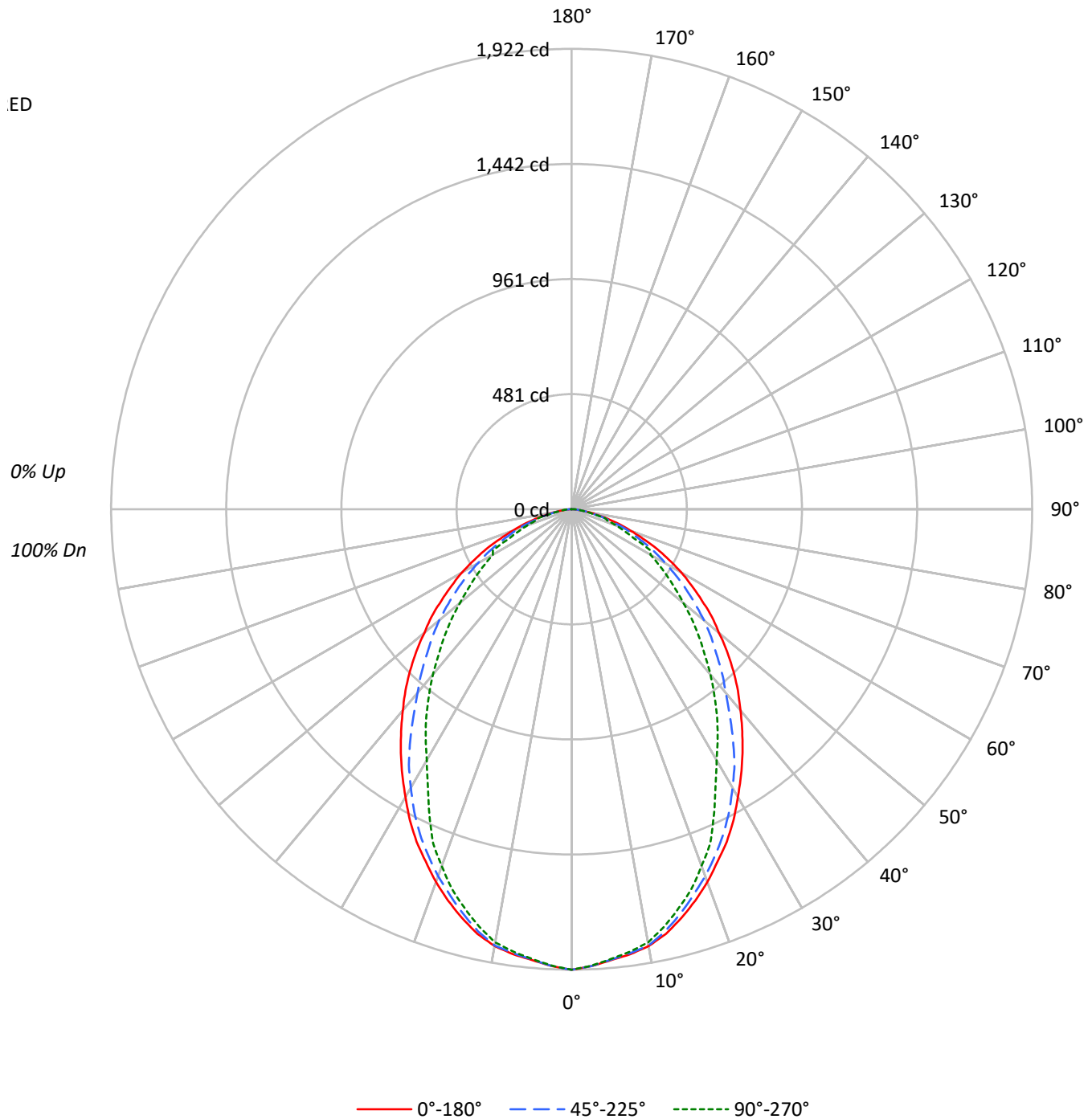
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	2587	2587	2587
5°	2551	2549	2545
10°	2529	2526	2508
15°	2461	2436	2402
20°	2371	2333	2269
25°	2273	2224	2085
30°	2155	2086	1878
35°	2041	1928	1738
40°	1925	1757	1581
45°	1814	1624	1429
50°	1679	1507	1275
55°	1554	1366	1142
60°	1423	1220	1023
65°	1252	1068	906
70°	1031	935	769
75°	820	716	751
80°	551	517	482
85°	343	412	480

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1814 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	179.0	4.7
10°-20°	491.1	13.0
20°-30°	679.9	18.0
30°-40°	725.0	19.2
40°-50°	661.4	17.5
50°-60°	518.2	13.7
60°-70°	337.7	8.9
70°-80°	149.6	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°	1350.0	35.8
0°-40°	2075.0	55.0
0°-60°	3254.6	86.2
0°-90°	3774.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3774.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1922	1922	1922	1922	1922	
5°	1889	1887	1887	1885	1885	179
15°	1767	1767	1749	1731	1725	497
25°	1531	1522	1498	1445	1405	703
35°	1242	1234	1174	1085	1058	777
45°	953	933	853	782	751	734
55°	662	642	582	513	487	594
65°	393	371	336	342	284	388
75°	158	147	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°	1922.4	1922.4	1922.4	1922.4	1922.4
2.5°	1909.1	1909.1	1909.1	1906.9	1906.9
5°	1889.1	1886.9	1886.9	1884.6	1884.6
7.5°	1873.5	1871.3	1869.1	1866.9	1862.4
10°	1851.3	1851.3	1849.1	1838.0	1835.7
12.5°	1815.7	1813.5	1804.6	1789.1	1784.6
15°	1766.9	1766.9	1749.1	1731.3	1724.6
17.5°	1713.5	1711.3	1689.1	1671.3	1662.4
20°	1655.7	1651.3	1629.1	1600.2	1584.6
22.5°	1591.3	1591.3	1564.6	1526.8	1511.3
25°	1531.3	1522.4	1497.9	1444.6	1404.6
27.5°	1462.4	1449.0	1422.4	1346.8	1300.1
30°	1386.8	1380.1	1342.4	1244.6	1209.0
32.5°	1315.7	1304.6	1264.6	1162.3	1133.5
35°	1242.4	1233.5	1173.5	1084.6	1057.9
37.5°	1169.0	1157.9	1082.3	1011.2	977.9
40°	1095.7	1082.3	1000.1	935.7	900.1
42.5°	1026.8	1009.0	929.0	860.1	820.1
45°	953.4	933.4	853.4	782.3	751.2
47.5°	880.1	862.3	789.0	715.6	680.1
50°	802.3	786.7	720.1	646.7	609.0
52.5°	737.9	713.4	649.0	575.6	544.5
55°	662.3	642.3	582.3	513.4	486.7
57.5°	593.4	573.4	517.8	453.4	431.2
60°	528.9	500.1	453.4	397.8	380.0
62.5°	457.8	435.6	395.6	348.9	371.2
65°	393.4	371.2	335.6	342.3	284.5
67.5°	322.3	311.1	280.0	248.9	240.0
70°	262.2	248.9	237.8	204.5	195.6
72.5°	208.9	195.6	180.0	162.2	155.6
75°	157.8	146.7	137.8	131.1	144.5
77.5°	108.9	104.5	97.8	91.1	88.9
80°	71.1	68.9	66.7	64.5	62.2
82.5°	42.2	42.2	42.2	42.2	42.2
85°	22.2	24.4	26.7	28.9	31.1
87.5°	13.3	13.3	15.6	17.8	20.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)