

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: P562408

Luminaire Tested: FSR-24-4-LD4-1STD-40-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562408
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-93-88-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2802.0 lumens
Efficiency: N/A
Efficacy: 84.1 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

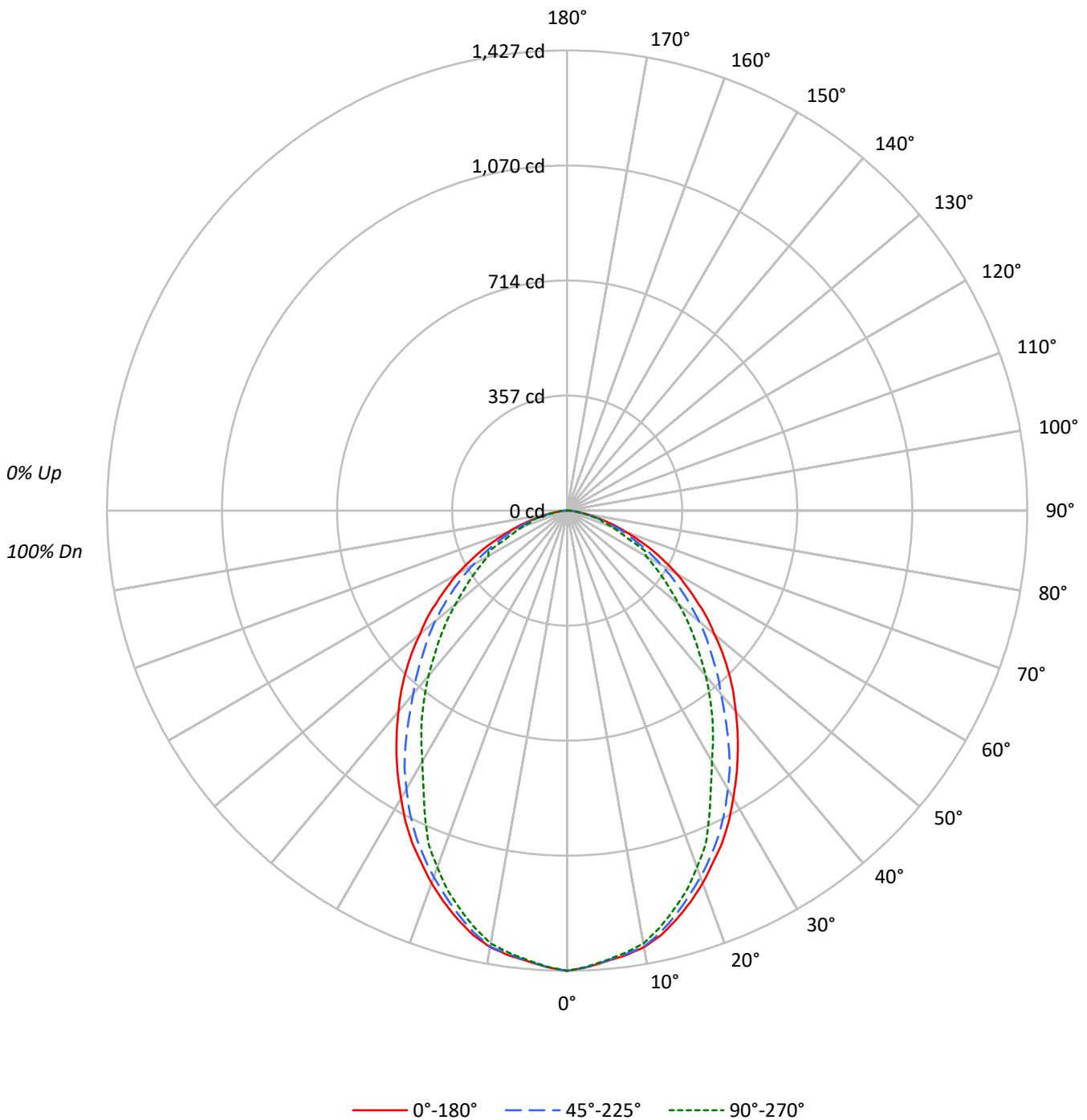
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	1920	1920	1920
5°	1894	1892	1890
10°	1878	1876	1862
15°	1827	1809	1784
20°	1760	1732	1685
25°	1688	1651	1548
30°	1600	1548	1395
35°	1515	1431	1290
40°	1429	1304	1174
45°	1347	1206	1061
50°	1247	1119	946
55°	1153	1014	848
60°	1057	906	759
65°	930	793	672
70°	766	695	571
75°	609	532	558
80°	409	384	358
85°	255	306	357

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1347 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	132.9	4.7
10°-20°	364.6	13.0
20°-30°	504.8	18.0
30°-40°	538.3	19.2
40°-50°	491.1	17.5
50°-60°	384.7	13.7
60°-70°	250.7	8.9
70°-80°	111.1	4.0
80°-90°	23.9	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°	1002.3	35.8
0°-40°	1540.6	55.0
0°-60°	2416.3	86.2
0°-90°	2802.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2802.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1427	1427	1427	1427	1427	
5°	1403	1401	1401	1399	1399	133
15°	1312	1312	1299	1285	1280	369
25°	1137	1130	1112	1072	1043	522
35°	922	916	871	805	785	577
45°	708	693	634	581	558	545
55°	492	477	432	381	361	441
65°	292	276	249	254	211	288
75°	117	109	102	97	107	126
85°	16	18	20	22	23	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1427.3	1427.3	1427.3	1427.3	1427.3
2.5°	1417.4	1417.4	1417.4	1415.8	1415.8
5°	1402.6	1400.9	1400.9	1399.3	1399.3
7.5°	1391.0	1389.3	1387.7	1386.0	1382.7
10°	1374.5	1374.5	1372.8	1364.6	1362.9
12.5°	1348.1	1346.4	1339.8	1328.3	1325.0
15°	1311.8	1311.8	1298.6	1285.4	1280.4
17.5°	1272.2	1270.5	1254.0	1240.8	1234.2
20°	1229.3	1226.0	1209.5	1188.0	1176.5
22.5°	1181.4	1181.4	1161.6	1133.6	1122.0
25°	1136.9	1130.3	1112.1	1072.5	1042.8
27.5°	1085.7	1075.8	1056.0	999.9	965.3
30°	1029.6	1024.7	996.6	924.0	897.6
32.5°	976.8	968.6	938.9	863.0	841.5
35°	922.4	915.8	871.2	805.2	785.4
37.5°	867.9	859.7	803.6	750.8	726.0
40°	813.5	803.6	742.5	694.7	668.3
42.5°	762.3	749.1	689.7	638.6	608.9
45°	707.9	693.0	633.6	580.8	557.7
47.5°	653.4	640.2	585.8	531.3	504.9
50°	595.7	584.1	534.6	480.2	452.1
52.5°	547.8	529.7	481.8	427.4	404.3
55°	491.7	476.9	432.3	381.2	361.4
57.5°	440.6	425.7	384.5	336.6	320.1
60°	392.7	371.3	336.6	295.4	282.2
62.5°	339.9	323.4	293.7	259.1	275.6
65°	292.1	275.6	249.2	254.1	211.2
67.5°	239.3	231.0	207.9	184.8	178.2
70°	194.7	184.8	176.6	151.8	145.2
72.5°	155.1	145.2	133.7	120.5	115.5
75°	117.2	108.9	102.3	97.4	107.3
77.5°	80.9	77.6	72.6	67.7	66.0
80°	52.8	51.2	49.5	47.9	46.2
82.5°	31.4	31.4	31.4	31.4	31.4
85°	16.5	18.2	19.8	21.5	23.1
87.5°	9.9	9.9	11.6	13.2	14.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)