

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: P562345

Luminaire Tested: FSR-24-4-LD4-1STD-35-UNV-93-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562345
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-93-88-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3302.0 lumens
Efficiency: N/A
Efficacy: 99.2 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

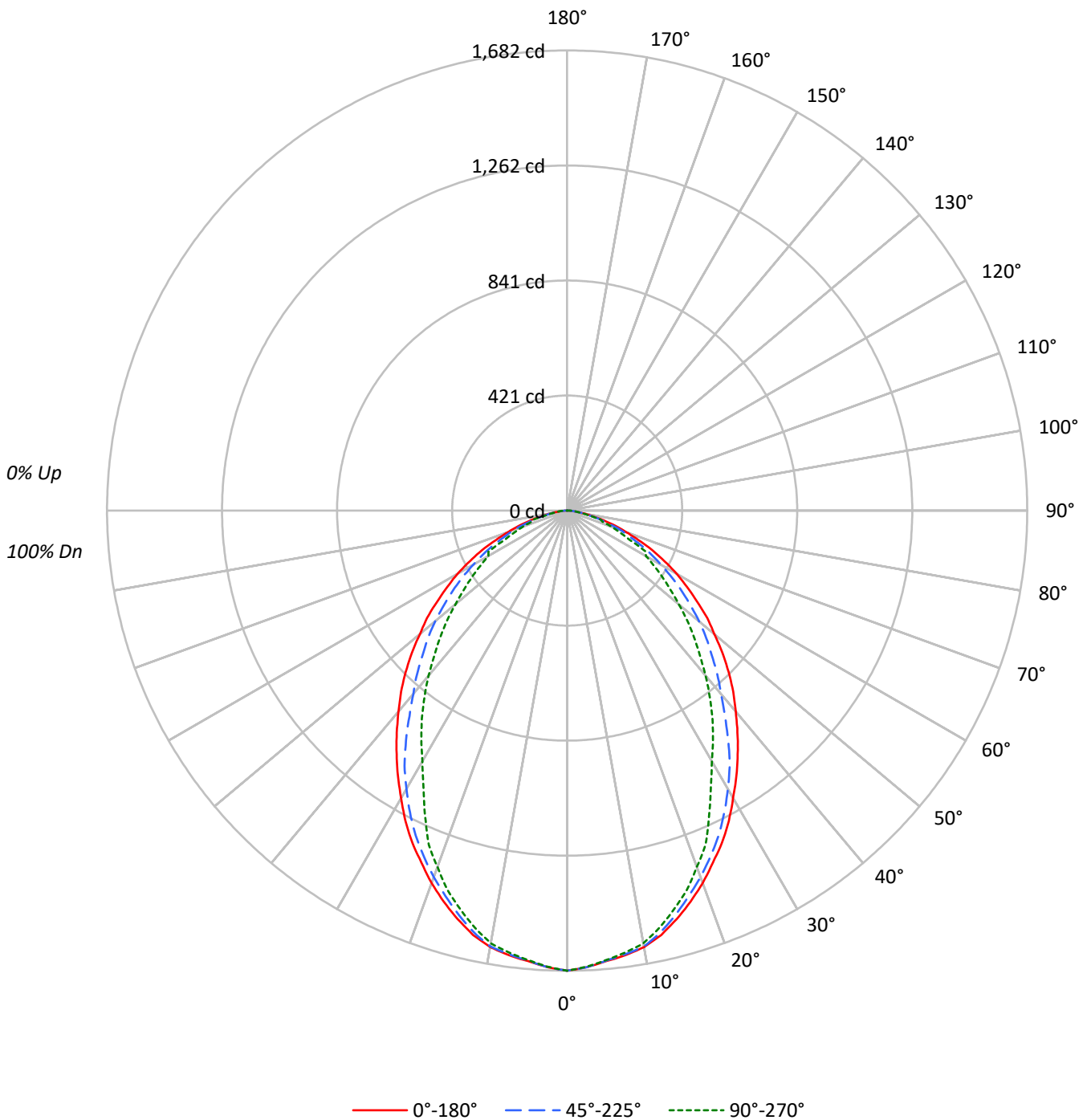
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	2263	2263	2263
5°	2232	2230	2227
10°	2213	2210	2194
15°	2153	2132	2102
20°	2074	2041	1985
25°	1989	1946	1824
30°	1885	1825	1643
35°	1785	1686	1520
40°	1684	1537	1383
45°	1587	1421	1251
50°	1469	1319	1115
55°	1359	1195	999
60°	1245	1068	895
65°	1096	935	792
70°	903	819	673
75°	718	627	657
80°	482	452	422
85°	299	360	420

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1587 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.6	4.7
10°-20°	429.7	13.0
20°-30°	594.9	18.0
30°-40°	634.3	19.2
40°-50°	578.7	17.5
50°-60°	453.4	13.7
60°-70°	295.5	8.9
70°-80°	130.9	4.0
80°-90°	28.1	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°	1181.2	35.8
0°-40°	1815.5	55.0
0°-60°	2847.5	86.2
0°-90°	3302.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3302.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1682	1682	1682	1682	1682	
5°	1653	1651	1651	1649	1649	157
15°	1546	1546	1530	1515	1509	435
25°	1340	1332	1311	1264	1229	615
35°	1087	1079	1027	949	926	680
45°	834	817	747	684	657	643
55°	580	562	510	449	426	520
65°	344	325	294	300	249	339
75°	138	128	121	115	126	148
85°	19	21	23	25	27	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1682.0	1682.0	1682.0	1682.0	1682.0
2.5°	1670.3	1670.3	1670.3	1668.4	1668.4
5°	1652.8	1650.9	1650.9	1648.9	1648.9
7.5°	1639.2	1637.3	1635.3	1633.4	1629.5
10°	1619.8	1619.8	1617.8	1608.1	1606.2
12.5°	1588.7	1586.7	1578.9	1565.3	1561.4
15°	1545.9	1545.9	1530.3	1514.8	1508.9
17.5°	1499.2	1497.3	1477.8	1462.3	1454.5
20°	1448.7	1444.8	1425.3	1400.0	1386.4
22.5°	1392.3	1392.3	1368.9	1335.9	1322.3
25°	1339.8	1332.0	1310.6	1263.9	1228.9
27.5°	1279.5	1267.8	1244.5	1178.4	1137.5
30°	1213.4	1207.5	1174.5	1088.9	1057.8
32.5°	1151.1	1141.4	1106.4	1017.0	991.7
35°	1087.0	1079.2	1026.7	948.9	925.6
37.5°	1022.8	1013.1	947.0	884.7	855.6
40°	958.6	947.0	875.0	818.6	787.5
42.5°	898.4	882.8	812.8	752.5	717.5
45°	834.2	816.7	746.7	684.5	657.2
47.5°	770.0	754.5	690.3	626.1	595.0
50°	702.0	688.4	630.0	565.9	532.8
52.5°	645.6	624.2	567.8	503.6	476.4
55°	579.5	562.0	509.5	449.2	425.8
57.5°	519.2	501.7	453.1	396.7	377.2
60°	462.8	437.5	396.7	348.1	332.5
62.5°	400.6	381.1	346.1	305.3	324.7
65°	344.2	324.7	293.6	299.5	248.9
67.5°	282.0	272.2	245.0	217.8	210.0
70°	229.5	217.8	208.1	178.9	171.1
72.5°	182.8	171.1	157.5	141.9	136.1
75°	138.1	128.3	120.6	114.7	126.4
77.5°	95.3	91.4	85.6	79.7	77.8
80°	62.2	60.3	58.3	56.4	54.4
82.5°	36.9	36.9	36.9	36.9	36.9
85°	19.4	21.4	23.3	25.3	27.2
87.5°	11.7	11.7	13.6	15.6	17.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)