

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: P562024

Luminaire Tested: FSR-24-4-LD4-1HI-35-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562024
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-LD4-1HI-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3389.0 lumens
Efficiency: N/A
Efficacy: 78.4 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

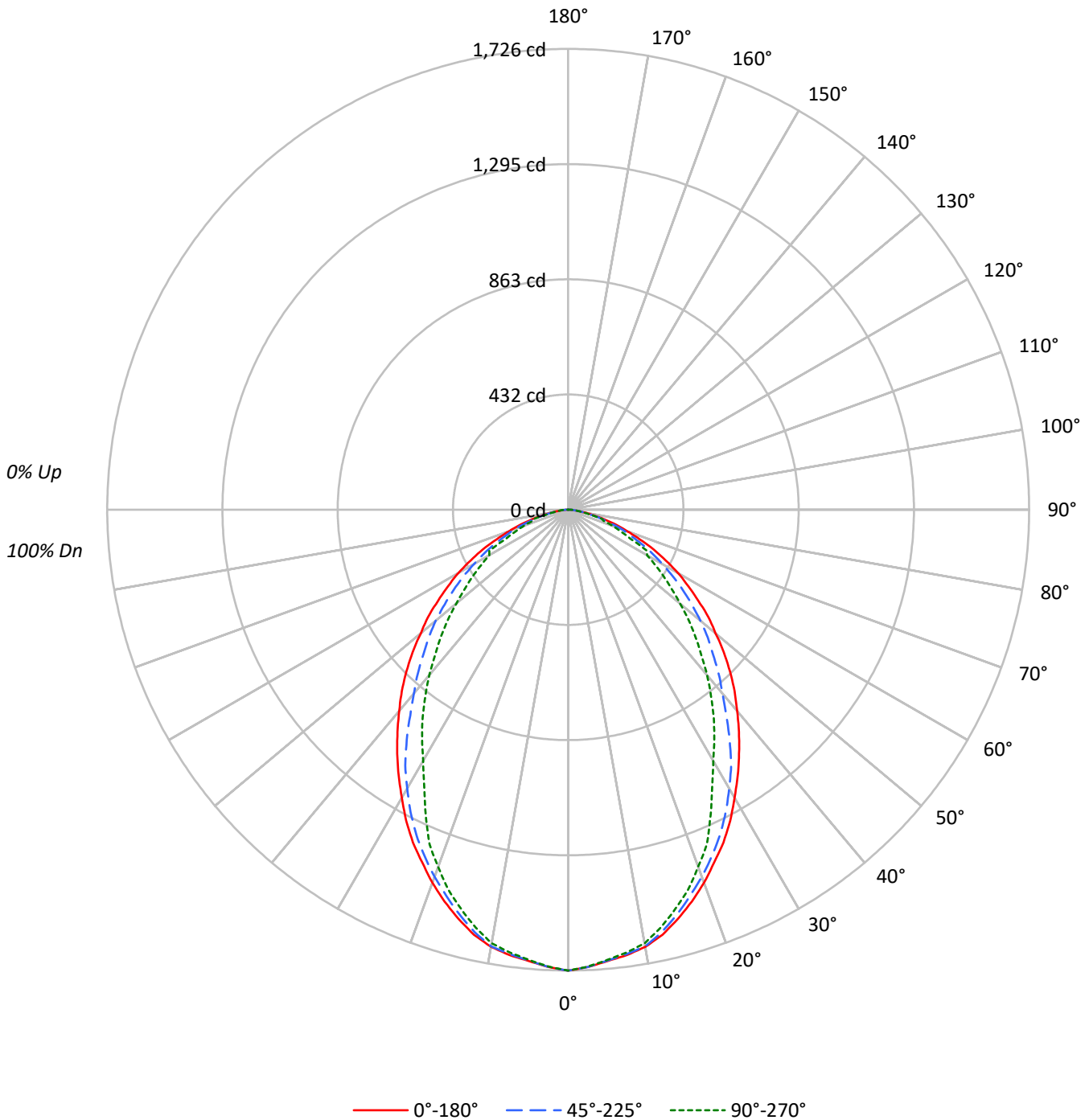
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	2323	2323	2323
5°	2291	2289	2286
10°	2271	2269	2252
15°	2210	2188	2157
20°	2129	2095	2038
25°	2041	1997	1873
30°	1935	1873	1687
35°	1832	1731	1560
40°	1728	1577	1420
45°	1629	1458	1284
50°	1508	1353	1145
55°	1395	1227	1025
60°	1278	1095	918
65°	1124	960	813
70°	926	840	691
75°	737	643	674
80°	495	464	433
85°	309	369	431

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1629 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	160.7	4.7
10°-20°	441.0	13.0
20°-30°	610.6	18.0
30°-40°	651.0	19.2
40°-50°	593.9	17.5
50°-60°	465.3	13.7
60°-70°	303.3	8.9
70°-80°	134.3	4.0
80°-90°	28.9	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°	1212.3	35.8
0°-40°	1863.3	55.0
0°-60°	2922.5	86.2
0°-90°	3389.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3389.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1726	1726	1726	1726	1726	
5°	1696	1694	1694	1692	1692	161
15°	1587	1587	1571	1555	1549	446
25°	1375	1367	1345	1297	1261	631
35°	1116	1108	1054	974	950	697
45°	856	838	766	702	675	660
55°	595	577	523	461	437	533
65°	353	333	301	307	256	348
75°	142	132	124	118	130	152
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°	1726.3	1726.3	1726.3	1726.3	1726.3
2.5°	1714.3	1714.3	1714.3	1712.3	1712.3
5°	1696.4	1694.4	1694.4	1692.4	1692.4
7.5°	1682.4	1680.4	1678.4	1676.4	1672.4
10°	1662.4	1662.4	1660.5	1650.5	1648.5
12.5°	1630.5	1628.5	1620.5	1606.6	1602.6
15°	1586.6	1586.6	1570.6	1554.7	1548.7
17.5°	1538.7	1536.7	1516.8	1500.8	1492.8
20°	1486.8	1482.8	1462.9	1436.9	1423.0
22.5°	1428.9	1428.9	1405.0	1371.1	1357.1
25°	1375.1	1367.1	1345.1	1297.2	1261.3
27.5°	1313.2	1301.2	1277.3	1209.4	1167.5
30°	1245.3	1239.4	1205.4	1117.6	1085.7
32.5°	1181.5	1171.5	1135.6	1043.8	1017.8
35°	1115.6	1107.6	1053.7	973.9	950.0
37.5°	1049.8	1039.8	971.9	908.1	878.1
40°	983.9	971.9	898.1	840.2	808.3
42.5°	922.0	906.1	834.2	772.3	736.4
45°	856.2	838.2	766.4	702.5	674.6
47.5°	790.3	774.3	708.5	642.6	610.7
50°	720.5	706.5	646.6	580.8	546.8
52.5°	662.6	640.6	582.8	516.9	489.0
55°	594.7	576.8	522.9	461.0	437.1
57.5°	532.9	514.9	465.0	407.1	387.2
60°	475.0	449.0	407.1	357.2	341.3
62.5°	411.1	391.2	355.2	313.3	333.3
65°	353.2	333.3	301.4	307.3	255.5
67.5°	289.4	279.4	251.5	223.5	215.5
70°	235.5	223.5	213.5	183.6	175.6
72.5°	187.6	175.6	161.7	145.7	139.7
75°	141.7	131.7	123.7	117.7	129.7
77.5°	97.8	93.8	87.8	81.8	79.8
80°	63.9	61.9	59.9	57.9	55.9
82.5°	37.9	37.9	37.9	37.9	37.9
85°	20.0	22.0	23.9	25.9	27.9
87.5°	12.0	12.0	14.0	16.0	18.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)