

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: P562221

Luminaire Tested: FSR-24-4-LD4-1LO-40-UNV-93-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562221
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-LD4-1LO-40-UNV-93-96-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 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: 2923.0 lumens
Efficiency: N/A
Efficacy: 124.9 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

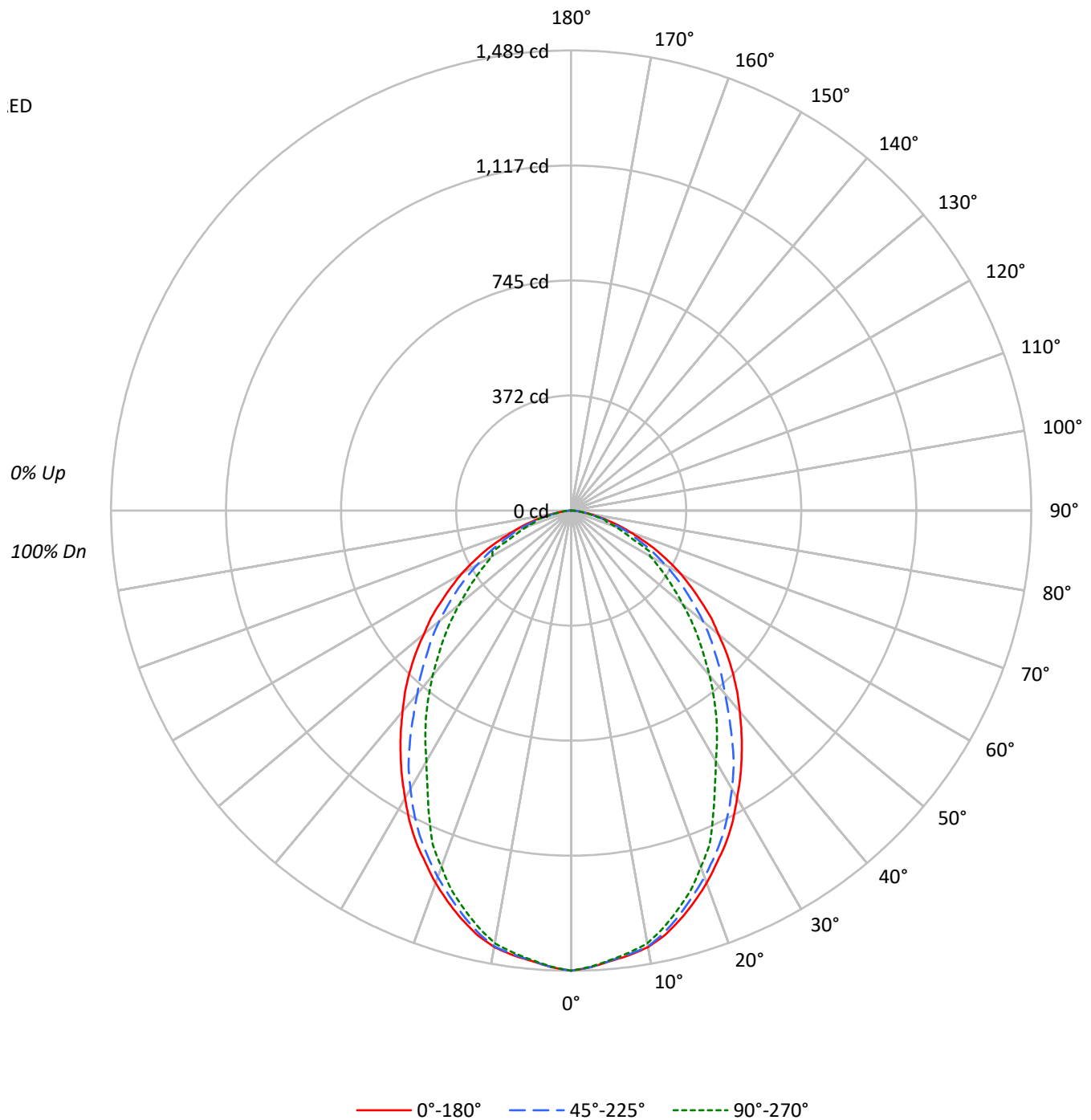
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20																		
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°	2003	2003	2003
5°	1976	1974	1972
10°	1959	1957	1943
15°	1906	1887	1861
20°	1836	1807	1757
25°	1761	1722	1615
30°	1669	1615	1455
35°	1580	1493	1346
40°	1490	1361	1224
45°	1405	1258	1107
50°	1301	1167	987
55°	1203	1058	884
60°	1102	945	792
65°	970	827	701
70°	799	725	596
75°	635	555	582
80°	427	400	373
85°	266	320	372

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1405 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.6	4.7
10°-20°	380.4	13.0
20°-30°	526.6	18.0
30°-40°	561.5	19.2
40°-50°	512.3	17.5
50°-60°	401.3	13.7
60°-70°	261.6	8.9
70°-80°	115.9	4.0
80°-90°	24.9	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°	1045.6	35.8
0°-40°	1607.1	55.0
0°-60°	2520.7	86.2
0°-90°	2923.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2923.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1489	1489	1489	1489	1489	
5°	1463	1461	1461	1460	1460	139
15°	1368	1368	1355	1341	1336	385
25°	1186	1179	1160	1119	1088	544
35°	962	955	909	840	819	602
45°	738	723	661	606	582	569
55°	513	498	451	398	377	460
65°	305	288	260	265	220	300
75°	122	114	107	102	112	131
85°	17	19	21	22	24	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1488.9	1488.9	1488.9	1488.9	1488.9
2.5°	1478.6	1478.6	1478.6	1476.9	1476.9
5°	1463.1	1461.4	1461.4	1459.7	1459.7
7.5°	1451.1	1449.3	1447.6	1445.9	1442.5
10°	1433.9	1433.9	1432.1	1423.5	1421.8
12.5°	1406.3	1404.6	1397.7	1385.7	1382.2
15°	1368.4	1368.4	1354.7	1340.9	1335.7
17.5°	1327.1	1325.4	1308.2	1294.4	1287.5
20°	1282.4	1278.9	1261.7	1239.3	1227.3
22.5°	1232.5	1232.5	1211.8	1182.5	1170.5
25°	1186.0	1179.1	1160.2	1118.9	1087.9
27.5°	1132.6	1122.3	1101.6	1043.1	1007.0
30°	1074.1	1068.9	1039.7	963.9	936.4
32.5°	1019.0	1010.4	979.4	900.2	877.9
35°	962.2	955.3	908.9	840.0	819.3
37.5°	905.4	896.8	838.3	783.2	757.4
40°	848.6	838.3	774.6	724.7	697.1
42.5°	795.2	781.5	719.5	666.1	635.2
45°	738.4	723.0	661.0	605.9	581.8
47.5°	681.6	667.9	611.1	554.3	526.7
50°	621.4	609.3	557.7	500.9	471.6
52.5°	571.5	552.5	502.6	445.8	421.7
55°	513.0	497.5	451.0	397.6	377.0
57.5°	459.6	444.1	401.1	351.1	333.9
60°	409.7	387.3	351.1	308.1	294.3
62.5°	354.6	337.4	306.4	270.2	287.5
65°	304.7	287.5	259.9	265.1	220.3
67.5°	249.6	241.0	216.9	192.8	185.9
70°	203.1	192.8	184.2	158.4	151.5
72.5°	161.8	151.5	139.4	125.7	120.5
75°	122.2	113.6	106.7	101.6	111.9
77.5°	84.3	80.9	75.7	70.6	68.9
80°	55.1	53.4	51.6	49.9	48.2
82.5°	32.7	32.7	32.7	32.7	32.7
85°	17.2	18.9	20.7	22.4	24.1
87.5°	10.3	10.3	12.0	13.8	15.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)