

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: P562212

Luminaire Tested: FSR-24-4-LD4-1LO-40-UNV-93-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562212
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-93-86-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2401.0 lumens
Efficiency: N/A
Efficacy: 102.6 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

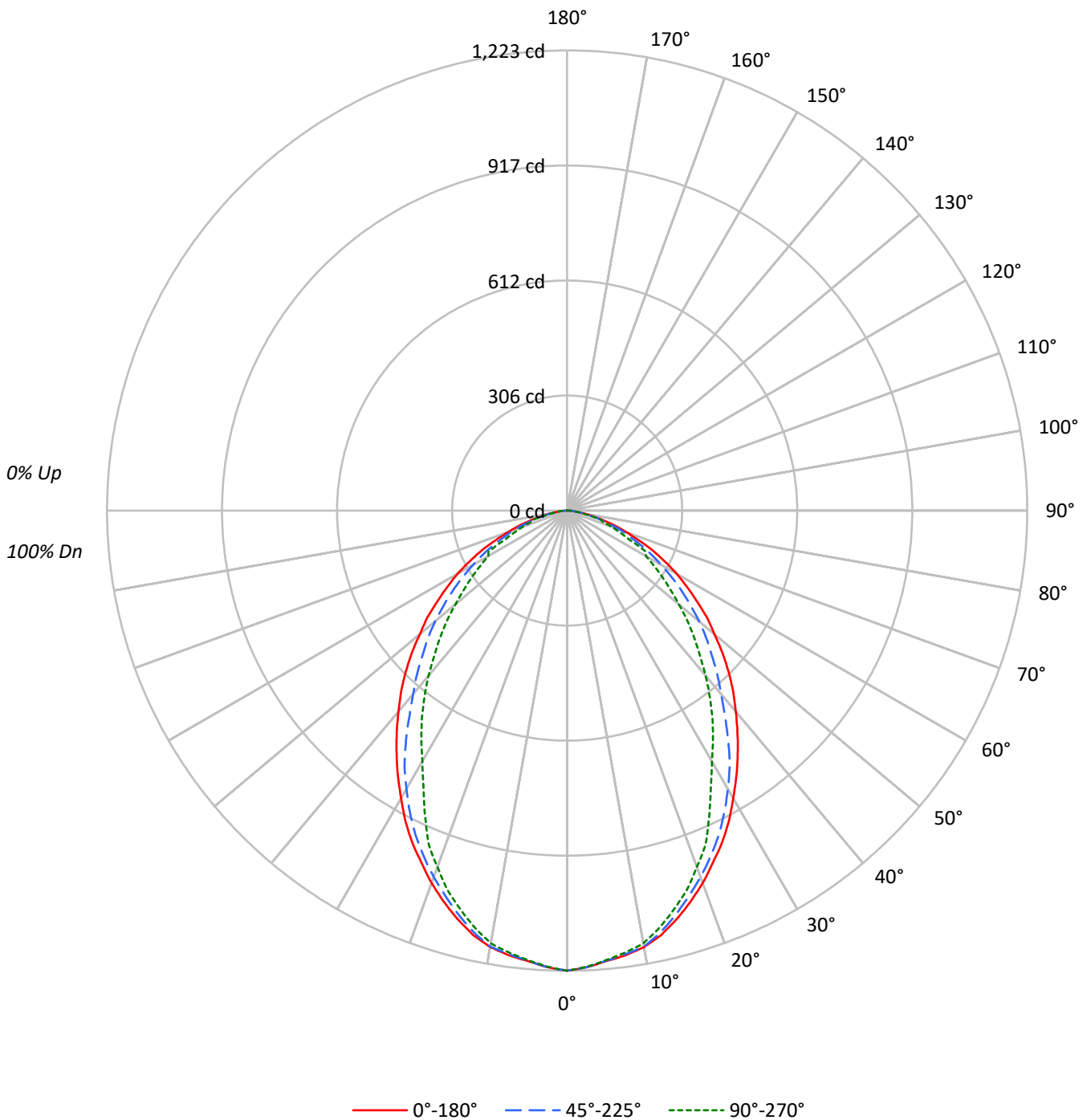
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									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																												
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°	1646	1646	1646
5°	1623	1621	1619
10°	1609	1607	1596
15°	1566	1550	1528
20°	1508	1484	1443
25°	1446	1415	1327
30°	1371	1327	1195
35°	1298	1226	1105
40°	1224	1118	1006
45°	1154	1033	909
50°	1068	959	811
55°	988	869	726
60°	906	776	651
65°	797	680	576
70°	656	595	489
75°	522	456	478
80°	350	329	307
85°	218	262	306

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1154 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.8	4.7
10°-20°	312.4	13.0
20°-30°	432.6	18.0
30°-40°	461.2	19.2
40°-50°	420.8	17.5
50°-60°	329.6	13.7
60°-70°	214.8	8.9
70°-80°	95.2	4.0
80°-90°	20.5	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°	858.9	35.8
0°-40°	1320.1	55.0
0°-60°	2070.5	86.2
0°-90°	2401.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2401.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1223	1223	1223	1223	1223	
5°	1202	1200	1200	1199	1199	114
15°	1124	1124	1113	1101	1097	316
25°	974	968	953	919	894	447
35°	790	785	746	690	673	494
45°	607	594	543	498	478	467
55°	421	409	370	327	310	378
65°	250	236	214	218	181	247
75°	100	93	88	83	92	108
85°	14	16	17	18	20	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1223.0	1223.0	1223.0	1223.0	1223.0
2.5°	1214.6	1214.6	1214.6	1213.1	1213.1
5°	1201.8	1200.4	1200.4	1199.0	1199.0
7.5°	1191.9	1190.5	1189.1	1187.7	1184.9
10°	1177.8	1177.8	1176.4	1169.3	1167.9
12.5°	1155.2	1153.8	1148.1	1138.2	1135.4
15°	1124.1	1124.1	1112.8	1101.4	1097.2
17.5°	1090.1	1088.7	1074.6	1063.3	1057.6
20°	1053.4	1050.5	1036.4	1018.0	1008.1
22.5°	1012.4	1012.4	995.4	971.4	961.5
25°	974.2	968.5	953.0	919.0	893.6
27.5°	930.4	921.9	904.9	856.8	827.1
30°	882.3	878.0	854.0	791.8	769.2
32.5°	837.0	830.0	804.5	739.5	721.1
35°	790.4	784.7	746.5	690.0	673.0
37.5°	743.7	736.7	688.6	643.3	622.1
40°	697.1	688.6	636.3	595.3	572.6
42.5°	653.2	641.9	591.0	547.2	521.7
45°	606.6	593.8	542.9	497.7	477.9
47.5°	559.9	548.6	501.9	455.3	432.7
50°	510.4	500.5	458.1	411.4	387.4
52.5°	469.4	453.9	412.9	366.2	346.4
55°	421.3	408.6	370.4	326.6	309.6
57.5°	377.5	364.8	329.4	288.4	274.3
60°	336.5	318.1	288.4	253.1	241.8
62.5°	291.3	277.1	251.7	222.0	236.1
65°	250.3	236.1	213.5	217.7	181.0
67.5°	205.0	197.9	178.2	158.4	152.7
70°	166.8	158.4	151.3	130.1	124.4
72.5°	132.9	124.4	114.5	103.2	99.0
75°	100.4	93.3	87.7	83.4	91.9
77.5°	69.3	66.5	62.2	58.0	56.6
80°	45.2	43.8	42.4	41.0	39.6
82.5°	26.9	26.9	26.9	26.9	26.9
85°	14.1	15.6	17.0	18.4	19.8
87.5°	8.5	8.5	9.9	11.3	12.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)