

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: P590283

Luminaire Tested: FSR-24-2-LD4-2LO-40-UNV-82-96-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590283
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-2LO-40-UNV-82-96-EDD
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2713.0 lumens
Efficiency: N/A
Efficacy: 115.9 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

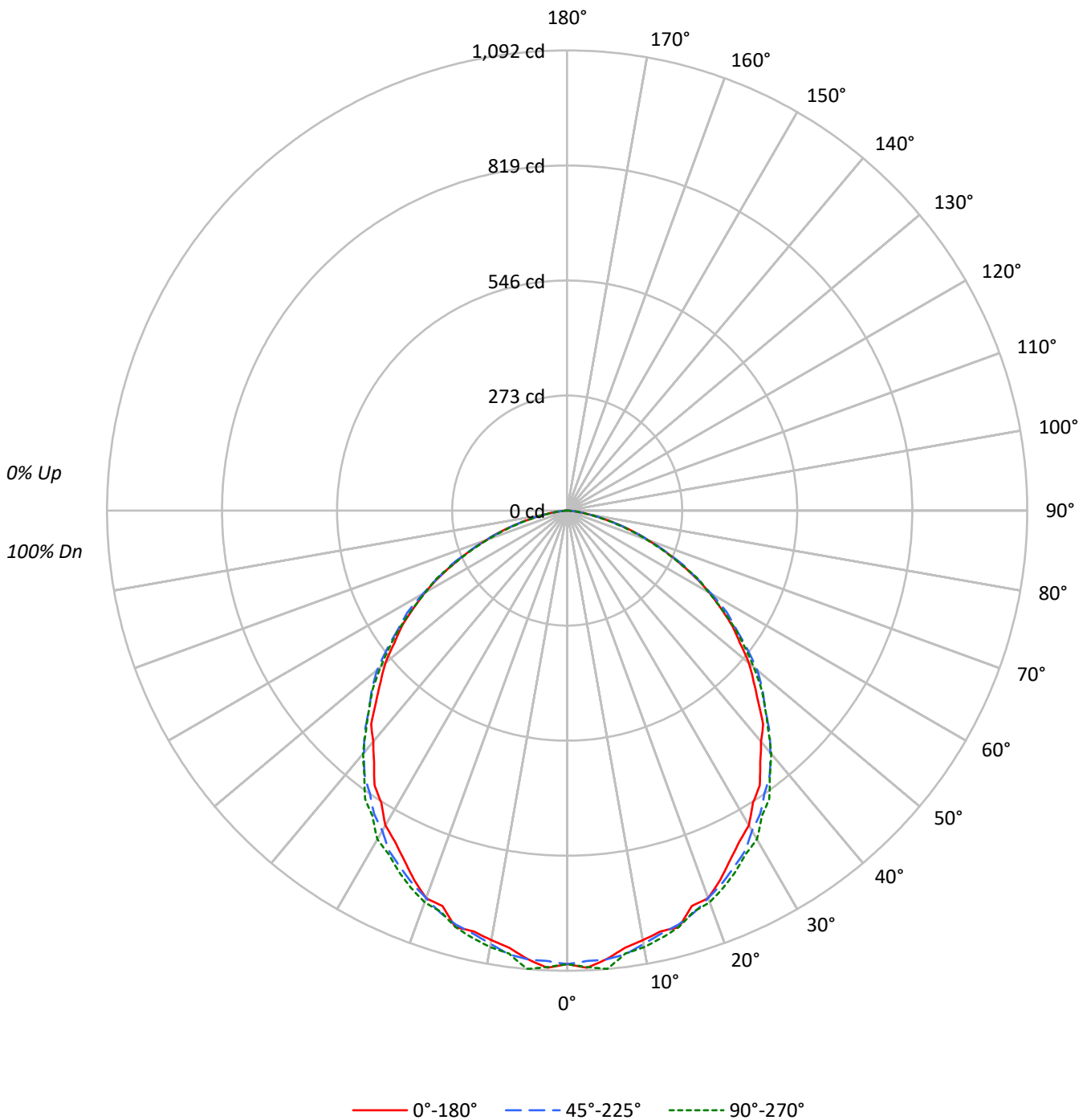
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2897	2897	2897
5°	2887	2888	2949
10°	2829	2853	2873
15°	2851	2835	2851
20°	2803	2803	2833
25°	2716	2776	2806
30°	2679	2726	2799
35°	2616	2685	2745
40°	2514	2635	2647
45°	2438	2525	2529
50°	2358	2465	2418
55°	2247	2291	2274
60°	2101	2122	2084
65°	1873	1921	1860
70°	1607	1613	1568
75°	1273	1271	1221
80°	852	829	797
85°	463	460	429

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 2590 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.3	3.7
10°-20°	287.0	10.6
20°-30°	429.9	15.8
30°-40°	509.6	18.8
40°-50°	510.5	18.8
50°-60°	433.3	16.0
60°-70°	292.1	10.8
70°-80°	128.4	4.7
80°-90°	20.9	0.8
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°	818.2	30.2
0°-40°	1327.7	48.9
0°-60°	2271.6	83.7
0°-90°	2713.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2713.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1076	1076	1076	1076	1076	
5°	1069	1066	1069	1066	1092	101
15°	1023	1012	1018	1023	1024	285
25°	915	920	935	947	945	423
35°	796	799	817	836	836	494
45°	641	653	664	681	664	496
55°	479	476	488	485	485	426
65°	294	290	302	290	292	293
75°	122	120	122	114	117	131
85°	15	15	15	14	14	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1076.4	1076.4	1076.4	1076.4	1076.4
2.5°	1085.8	1077.6	1069.9	1078.8	1084.2
5°	1068.8	1066.3	1069.2	1066.0	1091.7
7.5°	1046.8	1056.4	1062.0	1058.5	1060.0
10°	1035.2	1031.8	1044.2	1052.8	1051.6
12.5°	1022.7	1027.7	1028.4	1037.7	1038.5
15°	1023.4	1011.5	1017.8	1023.1	1023.5
17.5°	983.6	996.4	1000.7	1012.8	997.8
20°	978.7	969.4	978.7	991.1	989.2
22.5°	948.9	938.4	958.5	969.4	968.7
25°	914.9	920.0	935.0	947.2	945.2
27.5°	885.2	891.0	912.4	929.3	918.4
30°	862.3	859.4	877.4	892.4	900.8
32.5°	821.3	831.8	853.0	867.8	859.9
35°	796.4	798.8	817.2	836.1	835.6
37.5°	752.9	763.9	789.9	795.1	790.3
40°	715.8	726.8	750.2	755.9	753.6
42.5°	688.4	690.3	710.5	717.0	706.6
45°	640.7	652.7	663.5	680.6	664.5
47.5°	600.1	605.7	629.1	633.6	625.2
50°	563.3	565.3	588.7	583.0	577.5
52.5°	517.0	525.2	538.4	537.3	530.8
55°	478.9	475.8	488.3	484.9	484.8
57.5°	433.2	438.8	449.1	443.8	435.3
60°	390.4	390.6	394.3	388.3	387.2
62.5°	342.7	344.4	345.2	337.9	349.8
65°	294.2	290.3	301.7	290.2	292.1
67.5°	249.6	251.6	250.5	243.2	246.0
70°	204.3	206.8	205.0	196.8	199.3
72.5°	162.9	159.8	161.8	151.5	156.2
75°	122.4	119.9	122.2	113.6	117.4
77.5°	83.4	85.3	83.9	79.4	82.0
80°	55.0	53.5	53.5	50.9	51.4
82.5°	32.1	30.6	30.2	29.3	30.6
85°	15.0	14.6	14.9	14.5	13.9
87.5°	5.4	5.6	5.6	5.3	5.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)