

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: P590354

Luminaire Tested: FSR-24-2-LD4-2STD-35-UNV-93-94-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590354
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-LD4-2STD-35-UNV-93-94-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3919.0 lumens
Efficiency: N/A
Efficacy: 117.7 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

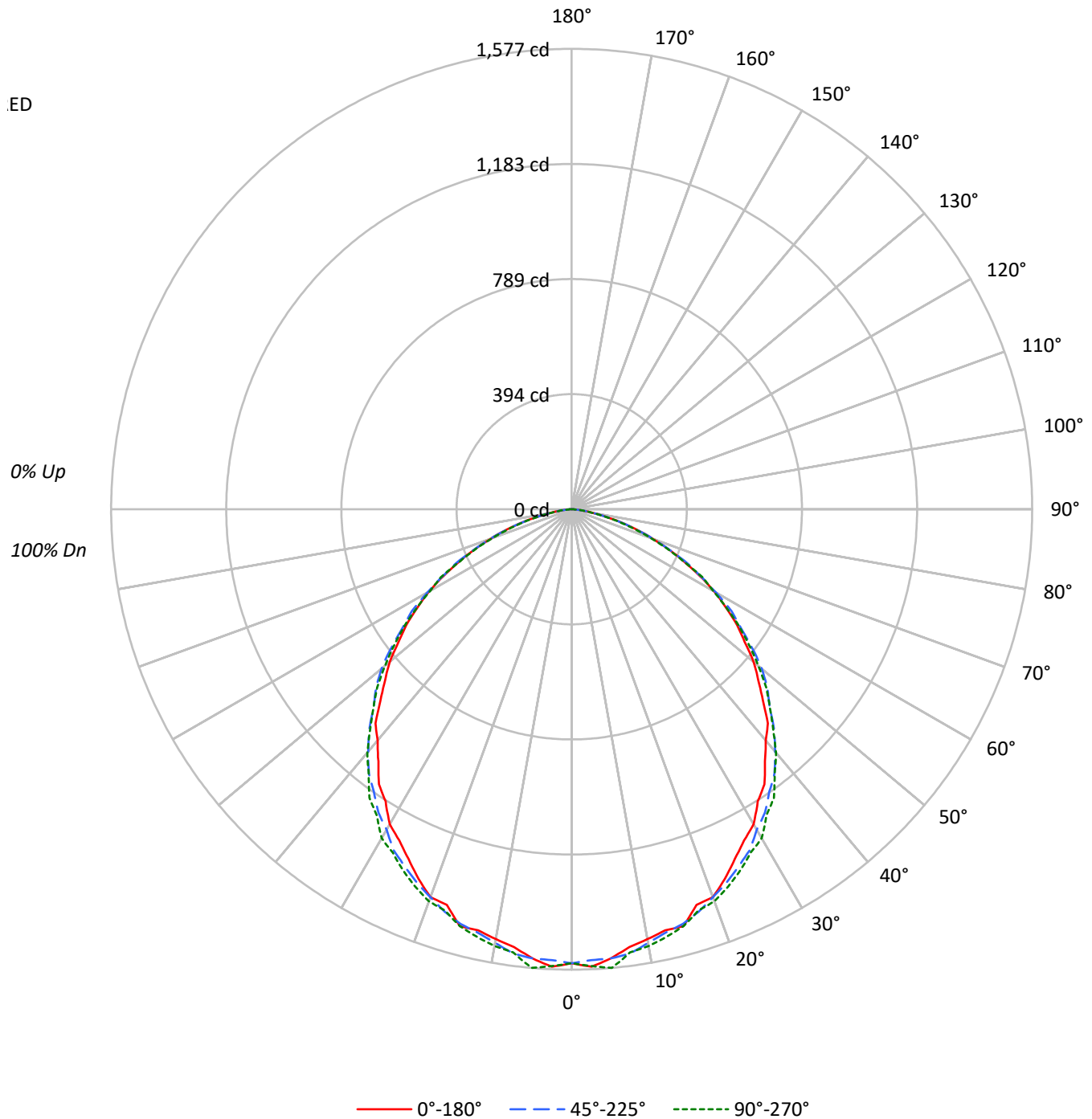
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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																												
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°	4184	4184	4184
5°	4170	4172	4260
10°	4086	4122	4151
15°	4118	4096	4119
20°	4049	4049	4092
25°	3924	4010	4054
30°	3870	3938	4043
35°	3779	3878	3965
40°	3632	3807	3824
45°	3522	3648	3653
50°	3406	3561	3492
55°	3246	3309	3286
60°	3035	3066	3010
65°	2706	2776	2687
70°	2322	2330	2265
75°	1839	1835	1764
80°	1232	1198	1151
85°	670	664	621

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 3742 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.3	3.7
10°-20°	414.5	10.6
20°-30°	621.1	15.8
30°-40°	736.1	18.8
40°-50°	737.5	18.8
50°-60°	626.0	16.0
60°-70°	422.0	10.8
70°-80°	185.4	4.7
80°-90°	30.1	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°	1181.9	30.2
0°-40°	1918.0	48.9
0°-60°	3281.4	83.7
0°-90°	3919.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3919.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1555	1555	1555	1555	1555	
5°	1544	1540	1544	1540	1577	146
15°	1478	1461	1470	1478	1478	412
25°	1322	1329	1351	1368	1365	611
35°	1150	1154	1180	1208	1207	714
45°	926	943	958	983	960	716
55°	692	687	705	700	700	615
65°	425	419	436	419	422	423
75°	177	173	176	164	170	190
85°	22	21	22	21	20	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1555.0	1555.0	1555.0	1555.0	1555.0
2.5°	1568.4	1556.6	1545.5	1558.4	1566.2
5°	1543.9	1540.3	1544.5	1539.9	1577.0
7.5°	1512.2	1526.0	1534.1	1529.1	1531.3
10°	1495.3	1490.5	1508.4	1520.8	1519.0
12.5°	1477.3	1484.5	1485.5	1498.9	1500.2
15°	1478.3	1461.2	1470.2	1477.9	1478.5
17.5°	1420.8	1439.3	1445.5	1463.0	1441.3
20°	1413.8	1400.4	1413.8	1431.7	1428.9
22.5°	1370.7	1355.6	1384.5	1400.4	1399.4
25°	1321.7	1328.9	1350.6	1368.2	1365.4
27.5°	1278.7	1287.1	1318.1	1342.3	1326.7
30°	1245.6	1241.4	1267.5	1289.1	1301.2
32.5°	1186.3	1201.6	1232.1	1253.6	1242.2
35°	1150.4	1153.8	1180.5	1207.8	1207.0
37.5°	1087.6	1103.4	1141.0	1148.6	1141.6
40°	1034.0	1049.8	1083.8	1092.0	1088.6
42.5°	994.4	997.2	1026.3	1035.8	1020.7
45°	925.5	942.8	958.5	983.2	959.9
47.5°	866.9	875.0	908.7	915.3	903.1
50°	813.7	816.5	850.5	842.2	834.2
52.5°	746.9	758.7	777.8	776.2	766.7
55°	691.9	687.2	705.3	700.5	700.3
57.5°	625.8	633.8	648.7	641.1	628.8
60°	564.0	564.2	569.6	561.0	559.3
62.5°	495.1	497.5	498.7	488.1	505.3
65°	425.0	419.4	435.9	419.2	422.0
67.5°	360.6	363.4	361.8	351.3	355.4
70°	295.1	298.7	296.1	284.3	287.9
72.5°	235.3	230.9	233.7	218.8	225.7
75°	176.9	173.3	176.5	164.0	169.7
77.5°	120.5	123.3	121.3	114.6	118.5
80°	79.5	77.3	77.3	73.5	74.3
82.5°	46.4	44.2	43.6	42.4	44.2
85°	21.7	21.1	21.5	20.9	20.1
87.5°	7.8	8.0	8.0	7.6	7.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)