

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: P590386

Luminaire Tested: FSR-24-2-LD4-2STD-40-UNV-93-94-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590386
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-40-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3958.0 lumens
Efficiency: N/A
Efficacy: 118.9 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

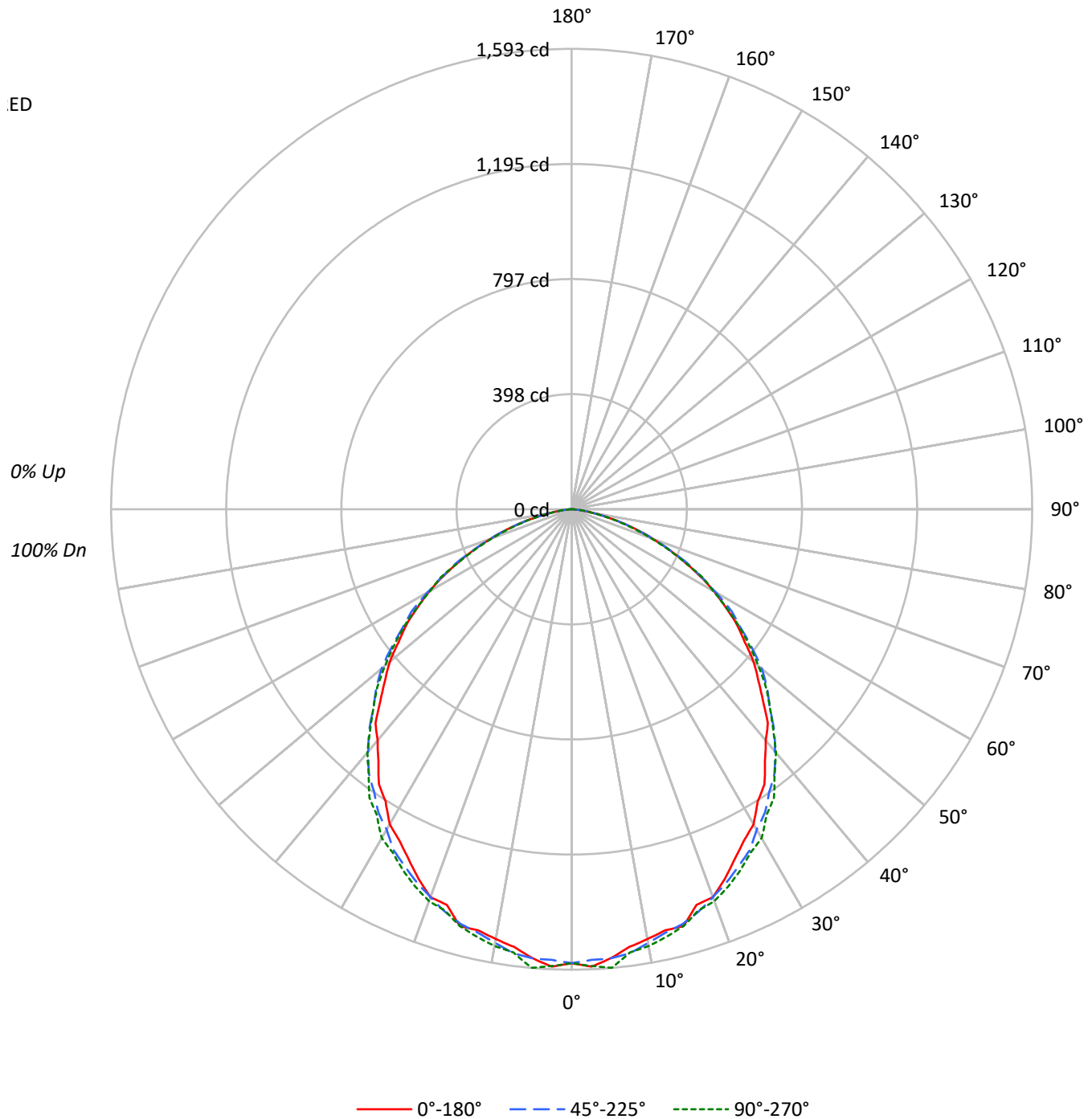
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4226	4226	4226
5°	4212	4214	4302
10°	4127	4163	4192
15°	4159	4137	4160
20°	4089	4089	4133
25°	3963	4050	4094
30°	3909	3978	4083
35°	3817	3917	4005
40°	3668	3845	3862
45°	3557	3684	3689
50°	3440	3596	3527
55°	3278	3342	3318
60°	3066	3096	3040
65°	2734	2803	2714
70°	2345	2353	2288
75°	1857	1853	1781
80°	1244	1210	1162
85°	676	670	627

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 3779 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.7	3.7
10°-20°	418.7	10.6
20°-30°	627.2	15.8
30°-40°	743.4	18.8
40°-50°	744.8	18.8
50°-60°	632.2	16.0
60°-70°	426.2	10.8
70°-80°	187.3	4.7
80°-90°	30.4	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°	1193.6	30.2
0°-40°	1937.1	48.9
0°-60°	3314.0	83.7
0°-90°	3958.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3958.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1570	1570	1570	1570	1570	
5°	1559	1556	1560	1555	1593	147
15°	1493	1476	1485	1493	1493	416
25°	1335	1342	1364	1382	1379	617
35°	1162	1165	1192	1220	1219	721
45°	935	952	968	993	969	723
55°	699	694	712	708	707	622
65°	429	424	440	423	426	427
75°	179	175	178	166	171	191
85°	22	21	22	21	20	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1570.4	1570.4	1570.4	1570.4	1570.4
2.5°	1584.0	1572.1	1560.9	1573.9	1581.8
5°	1559.3	1555.6	1559.9	1555.2	1592.7
7.5°	1527.2	1541.2	1549.3	1544.3	1546.5
10°	1510.2	1505.3	1523.4	1536.0	1534.1
12.5°	1492.0	1499.3	1500.3	1513.9	1515.1
15°	1493.0	1475.7	1484.9	1492.6	1493.2
17.5°	1435.0	1453.6	1459.9	1477.6	1455.7
20°	1427.9	1414.3	1427.9	1445.9	1443.1
22.5°	1384.3	1369.1	1398.3	1414.3	1413.3
25°	1334.8	1342.1	1364.0	1381.9	1379.0
27.5°	1291.4	1299.9	1331.2	1355.7	1339.9
30°	1258.0	1253.7	1280.1	1302.0	1314.1
32.5°	1198.2	1213.6	1244.4	1266.1	1254.5
35°	1161.9	1165.3	1192.3	1219.8	1219.0
37.5°	1098.4	1114.4	1152.3	1160.0	1152.9
40°	1044.3	1060.3	1094.5	1102.9	1099.4
42.5°	1004.3	1007.1	1036.5	1046.1	1030.9
45°	934.8	952.2	968.0	993.0	969.4
47.5°	875.6	883.7	917.7	924.4	912.0
50°	821.8	824.7	858.9	850.6	842.5
52.5°	754.3	766.3	785.5	783.9	774.4
55°	698.7	694.1	712.3	707.5	707.3
57.5°	632.0	640.1	655.1	647.4	635.1
60°	569.6	569.8	575.3	566.5	564.9
62.5°	500.0	502.5	503.7	492.9	510.4
65°	429.3	423.6	440.2	423.4	426.2
67.5°	364.2	367.0	365.4	354.8	358.9
70°	298.1	301.7	299.1	287.1	290.8
72.5°	237.6	233.2	236.0	221.0	227.9
75°	178.6	175.0	178.2	165.7	171.3
77.5°	121.7	124.5	122.5	115.8	119.6
80°	80.3	78.1	78.1	74.2	75.0
82.5°	46.8	44.6	44.0	42.8	44.6
85°	21.9	21.3	21.7	21.1	20.3
87.5°	7.9	8.1	8.1	7.7	7.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)