

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: P590420

Luminaire Tested: FSR-24-2-LD4-2STD-50-UNV-93-97-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590420
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-50-UNV-93-97-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3838.0 lumens
Efficiency: N/A
Efficacy: 115.3 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

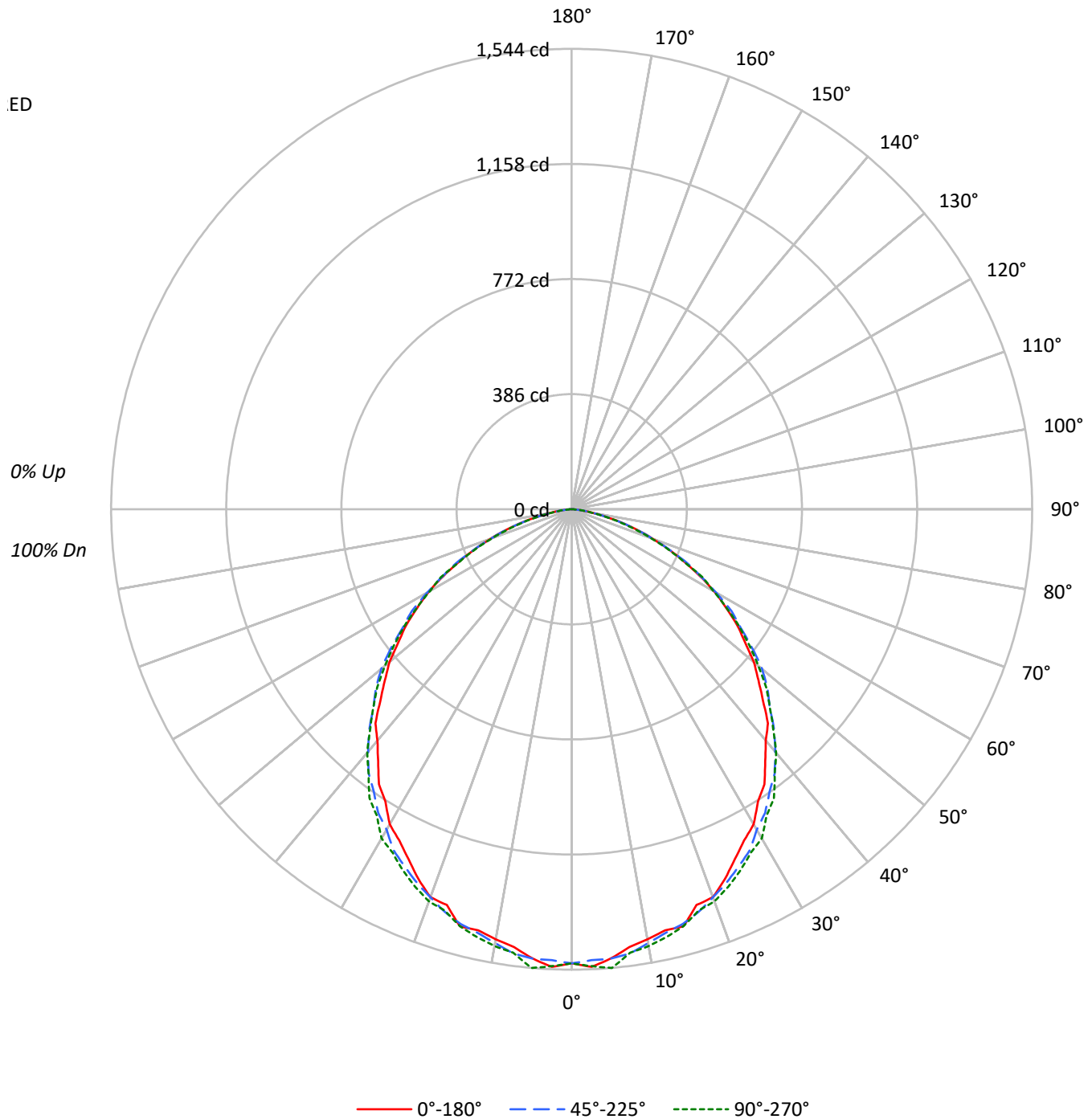
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4098	4098	4098
5°	4084	4086	4172
10°	4001	4036	4065
15°	4033	4011	4034
20°	3965	3965	4007
25°	3843	3927	3970
30°	3790	3857	3960
35°	3701	3798	3883
40°	3557	3729	3745
45°	3449	3572	3577
50°	3336	3487	3420
55°	3179	3240	3217
60°	2972	3002	2948
65°	2650	2718	2632
70°	2274	2282	2219
75°	1801	1797	1727
80°	1207	1173	1127
85°	655	648	608

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 3664 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	143.2	3.7
10°-20°	406.0	10.6
20°-30°	608.2	15.8
30°-40°	720.9	18.8
40°-50°	722.2	18.8
50°-60°	613.0	16.0
60°-70°	413.3	10.8
70°-80°	181.6	4.7
80°-90°	29.5	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°	1157.4	30.2
0°-40°	1878.3	48.9
0°-60°	3213.6	83.7
0°-90°	3838.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3838.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1523	1523	1523	1523	1523	
5°	1512	1508	1513	1508	1544	143
15°	1448	1431	1440	1447	1448	403
25°	1294	1301	1323	1340	1337	598
35°	1127	1130	1156	1183	1182	699
45°	906	923	939	963	940	701
55°	678	673	691	686	686	603
65°	416	411	427	410	413	414
75°	173	170	173	161	166	186
85°	21	21	21	20	20	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1522.8	1522.8	1522.8	1522.8	1522.8
2.5°	1536.0	1524.4	1513.6	1526.2	1533.8
5°	1512.0	1508.5	1512.6	1508.1	1544.4
7.5°	1480.9	1494.5	1502.4	1497.5	1499.6
10°	1464.4	1459.7	1477.2	1489.4	1487.6
12.5°	1446.7	1453.8	1454.8	1468.0	1469.1
15°	1447.7	1431.0	1439.8	1447.3	1447.9
17.5°	1391.5	1409.6	1415.7	1432.8	1411.5
20°	1384.6	1371.4	1384.6	1402.1	1399.3
22.5°	1342.3	1327.6	1355.9	1371.4	1370.4
25°	1294.3	1301.4	1322.7	1340.0	1337.2
27.5°	1252.3	1260.5	1290.8	1314.6	1299.3
30°	1219.8	1215.7	1241.3	1262.5	1274.3
32.5°	1161.8	1176.8	1206.7	1227.7	1216.5
35°	1126.6	1130.0	1156.1	1182.9	1182.1
37.5°	1065.1	1080.6	1117.4	1124.9	1118.0
40°	1012.6	1028.1	1061.4	1069.4	1066.1
42.5°	973.9	976.6	1005.1	1014.4	999.6
45°	906.4	923.3	938.7	962.8	940.0
47.5°	849.0	856.9	889.9	896.4	884.4
50°	796.9	799.7	832.9	824.8	817.0
52.5°	731.4	743.0	761.7	760.1	750.9
55°	677.6	673.0	690.7	686.0	685.8
57.5°	612.9	620.7	635.3	627.8	615.8
60°	552.3	552.5	557.8	549.4	547.8
62.5°	484.9	487.2	488.4	478.0	494.9
65°	416.2	410.7	426.9	410.5	413.3
67.5°	353.1	355.9	354.3	344.1	348.0
70°	289.0	292.6	290.0	278.4	282.0
72.5°	230.4	226.1	228.9	214.3	221.0
75°	173.2	169.7	172.8	160.6	166.1
77.5°	118.0	120.7	118.8	112.3	116.0
80°	77.9	75.7	75.7	72.0	72.7
82.5°	45.4	43.3	42.7	41.5	43.3
85°	21.2	20.6	21.0	20.4	19.7
87.5°	7.7	7.9	7.9	7.5	7.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)