

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: P590371

Luminaire Tested: FSR-24-2-LD4-2STD-40-UNV-81-96-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590371
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-81-96-EDD
Description: 2X2 FSR TROFFER WITH .156 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: 3712.0 lumens
Efficiency: N/A
Efficacy: 111.5 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

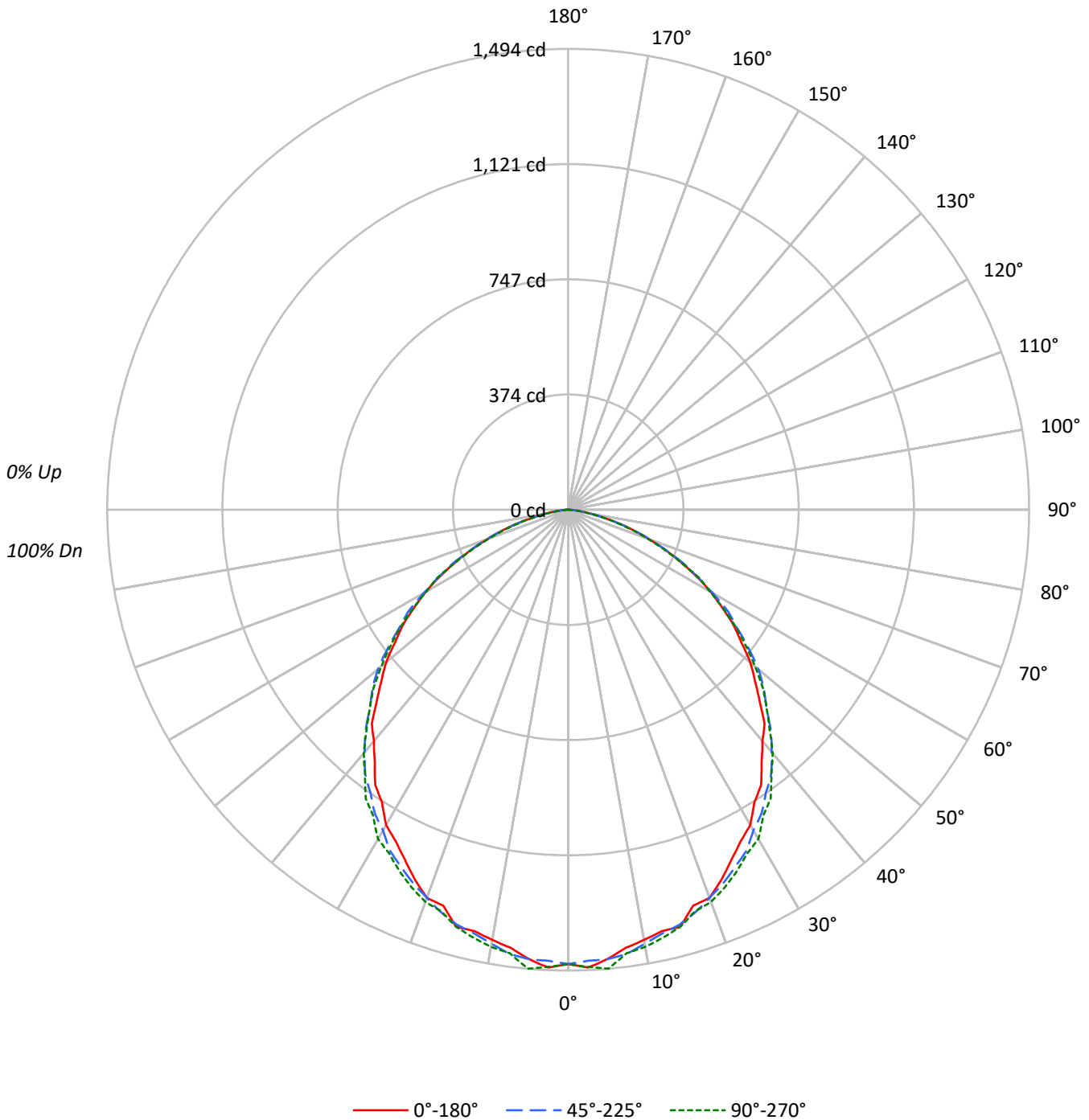
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3963	3963	3963
5°	3950	3952	4035
10°	3870	3904	3932
15°	3901	3880	3901
20°	3835	3835	3876
25°	3717	3798	3840
30°	3666	3730	3830
35°	3579	3673	3756
40°	3440	3606	3622
45°	3336	3455	3460
50°	3226	3372	3308
55°	3074	3134	3112
60°	2875	2904	2851
65°	2564	2628	2545
70°	2199	2207	2146
75°	1742	1738	1671
80°	1167	1134	1091
85°	633	627	587

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 3544 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.5	3.7
10°-20°	392.6	10.6
20°-30°	588.3	15.8
30°-40°	697.2	18.8
40°-50°	698.5	18.8
50°-60°	592.9	16.0
60°-70°	399.7	10.8
70°-80°	175.7	4.7
80°-90°	28.5	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°	1119.4	30.2
0°-40°	1816.6	48.9
0°-60°	3108.0	83.7
0°-90°	3712.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3712.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1473	1473	1473	1473	1473	
5°	1462	1459	1463	1459	1494	138
15°	1400	1384	1393	1400	1400	390
25°	1252	1259	1279	1296	1293	579
35°	1090	1093	1118	1144	1143	677
45°	877	893	908	931	909	678
55°	655	651	668	664	663	583
65°	403	397	413	397	400	400
75°	168	164	167	155	161	180
85°	20	20	20	20	19	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1472.8	1472.8	1472.8	1472.8	1472.8
2.5°	1485.6	1474.3	1463.9	1476.1	1483.5
5°	1462.4	1458.9	1462.9	1458.6	1493.7
7.5°	1432.3	1445.4	1453.1	1448.3	1450.4
10°	1416.3	1411.8	1428.7	1440.5	1438.8
12.5°	1399.2	1406.1	1407.0	1419.8	1420.9
15°	1400.2	1384.0	1392.6	1399.8	1400.4
17.5°	1345.8	1363.3	1369.2	1385.7	1365.2
20°	1339.1	1326.4	1339.1	1356.1	1353.4
22.5°	1298.3	1284.0	1311.4	1326.4	1325.4
25°	1251.9	1258.7	1279.2	1296.0	1293.3
27.5°	1211.2	1219.1	1248.4	1271.4	1256.6
30°	1179.8	1175.8	1200.5	1221.0	1232.5
32.5°	1123.7	1138.1	1167.0	1187.4	1176.6
35°	1089.6	1092.9	1118.2	1144.0	1143.3
37.5°	1030.1	1045.1	1080.7	1087.9	1081.3
40°	979.3	994.4	1026.5	1034.3	1031.1
42.5°	941.9	944.5	972.1	981.1	966.8
45°	876.7	893.0	907.8	931.2	909.2
47.5°	821.1	828.7	860.7	867.0	855.4
50°	770.7	773.4	805.5	797.7	790.1
52.5°	707.4	718.6	736.7	735.2	726.2
55°	655.3	650.9	668.0	663.5	663.3
57.5°	592.7	600.4	614.4	607.2	595.6
60°	534.2	534.4	539.5	531.3	529.8
62.5°	468.9	471.2	472.4	462.3	478.6
65°	402.6	397.3	412.8	397.1	399.7
67.5°	341.5	344.2	342.7	332.8	336.6
70°	279.5	283.0	280.5	269.3	272.7
72.5°	222.9	218.7	221.4	207.3	213.7
75°	167.5	164.1	167.2	155.4	160.7
77.5°	114.1	116.8	114.9	108.6	112.2
80°	75.3	73.2	73.2	69.6	70.4
82.5°	43.9	41.8	41.3	40.1	41.8
85°	20.5	20.0	20.3	19.8	19.0
87.5°	7.4	7.6	7.6	7.2	6.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)