

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: P590370

Luminaire Tested: FSR-24-2-LD4-2STD-40-UNV-81-94-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590370
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-81-94-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 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: 3753.0 lumens
Efficiency: N/A
Efficacy: 112.7 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

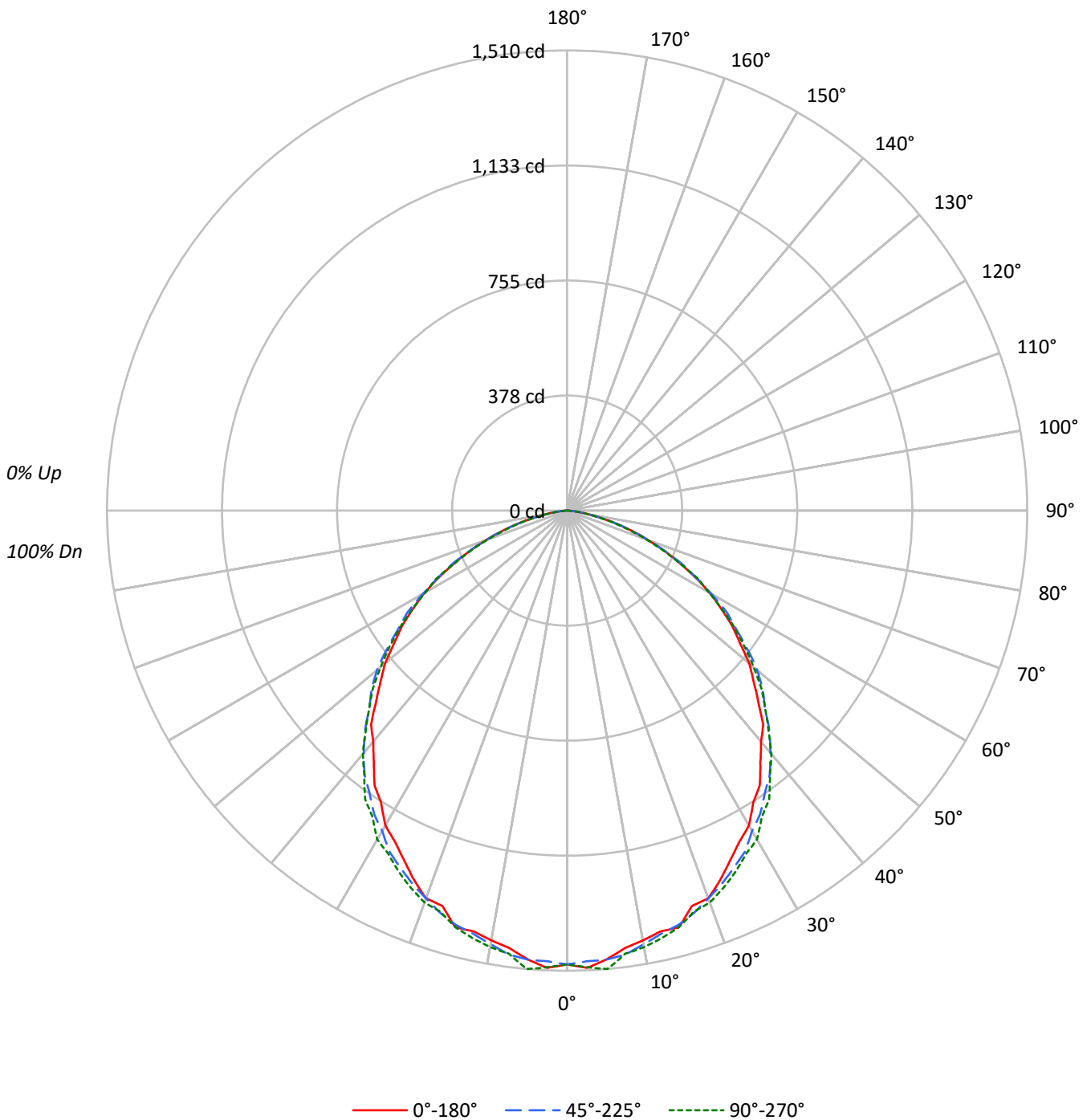
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4007	4007	4007
5°	3994	3995	4079
10°	3913	3947	3975
15°	3944	3923	3944
20°	3877	3877	3919
25°	3758	3840	3882
30°	3706	3772	3872
35°	3619	3714	3797
40°	3478	3646	3662
45°	3373	3493	3498
50°	3262	3409	3345
55°	3108	3169	3146
60°	2907	2936	2883
65°	2592	2658	2573
70°	2223	2231	2169
75°	1761	1757	1690
80°	1179	1147	1102
85°	642	636	593

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 3583 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.1	3.7
10°-20°	397.0	10.6
20°-30°	594.8	15.8
30°-40°	704.9	18.8
40°-50°	706.2	18.8
50°-60°	599.5	16.0
60°-70°	404.2	10.8
70°-80°	177.6	4.7
80°-90°	28.9	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°	1131.8	30.2
0°-40°	1836.7	48.9
0°-60°	3142.4	83.7
0°-90°	3753.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3753.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1489	1489	1489	1489	1489	
5°	1478	1475	1479	1475	1510	139
15°	1416	1399	1408	1415	1416	394
25°	1266	1273	1293	1310	1308	585
35°	1102	1105	1130	1157	1156	684
45°	886	903	918	942	919	686
55°	662	658	675	671	671	589
65°	407	402	417	402	404	405
75°	169	166	169	157	162	182
85°	21	20	21	20	19	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1489.1	1489.1	1489.1	1489.1	1489.1
2.5°	1502.0	1490.6	1480.1	1492.4	1499.9
5°	1478.5	1475.1	1479.1	1474.7	1510.2
7.5°	1448.1	1461.4	1469.1	1464.3	1466.4
10°	1432.0	1427.4	1444.5	1456.4	1454.7
12.5°	1414.7	1421.6	1422.6	1435.5	1436.6
15°	1415.7	1399.3	1408.0	1415.3	1415.8
17.5°	1360.7	1378.4	1384.3	1401.0	1380.3
20°	1353.9	1341.1	1353.9	1371.0	1368.4
22.5°	1312.6	1298.2	1325.9	1341.1	1340.1
25°	1265.7	1272.6	1293.4	1310.3	1307.6
27.5°	1224.5	1232.6	1262.2	1285.5	1270.5
30°	1192.8	1188.8	1213.8	1234.5	1246.1
32.5°	1136.1	1150.7	1179.9	1200.5	1189.5
35°	1101.7	1104.9	1130.5	1156.7	1155.9
37.5°	1041.5	1056.7	1092.6	1100.0	1093.2
40°	990.2	1005.4	1037.8	1045.7	1042.5
42.5°	952.3	955.0	982.9	991.9	977.5
45°	886.3	902.9	917.9	941.5	919.2
47.5°	830.2	837.9	870.2	876.5	864.8
50°	779.3	781.9	814.4	806.6	798.9
52.5°	715.2	726.6	744.8	743.3	734.3
55°	662.5	658.1	675.4	670.8	670.6
57.5°	599.3	607.0	621.2	613.9	602.2
60°	540.1	540.3	545.5	537.2	535.7
62.5°	474.1	476.4	477.6	467.4	483.9
65°	407.0	401.6	417.4	401.5	404.1
67.5°	345.3	348.0	346.5	336.5	340.3
70°	282.6	286.1	283.6	272.2	275.7
72.5°	225.3	221.1	223.8	209.6	216.1
75°	169.4	165.9	169.0	157.1	162.5
77.5°	115.4	118.1	116.1	109.8	113.4
80°	76.1	74.0	74.0	70.4	71.1
82.5°	44.4	42.3	41.7	40.6	42.3
85°	20.8	20.2	20.6	20.0	19.2
87.5°	7.5	7.7	7.7	7.3	6.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)