

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: P590381

Luminaire Tested: FSR-24-2-LD4-2STD-40-UNV-93-84-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590381
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-93-84-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3949.0 lumens
Efficiency: N/A
Efficacy: 118.6 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

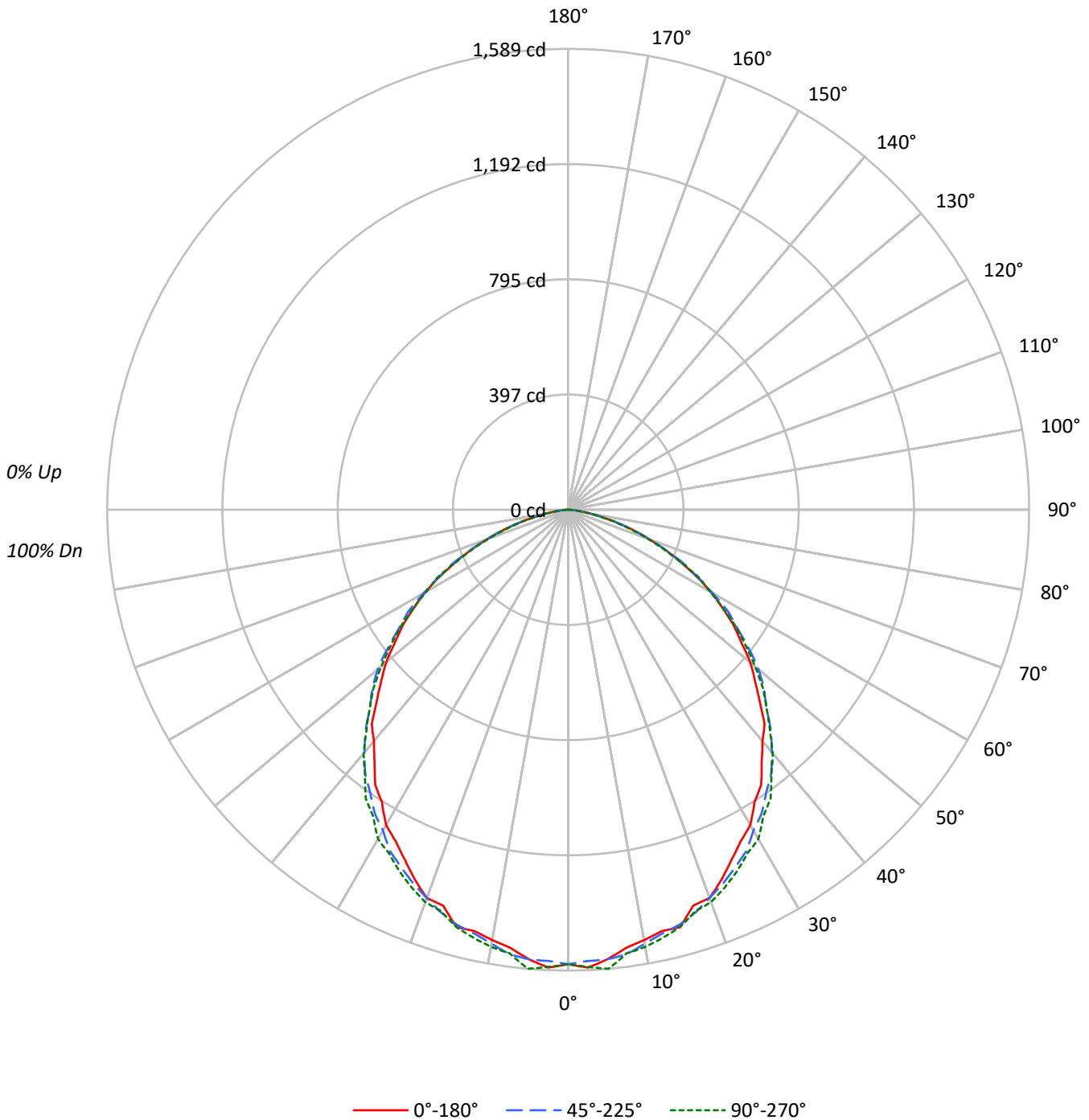
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4216	4216	4216
5°	4202	4204	4293
10°	4117	4153	4183
15°	4150	4127	4150
20°	4080	4080	4123
25°	3954	4041	4085
30°	3900	3969	4074
35°	3808	3908	3996
40°	3660	3836	3853
45°	3549	3675	3681
50°	3432	3588	3519
55°	3270	3334	3310
60°	3059	3089	3033
65°	2727	2797	2707
70°	2340	2348	2282
75°	1853	1849	1777
80°	1241	1207	1161
85°	673	667	624

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 3770 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.4	3.7
10°-20°	417.7	10.6
20°-30°	625.8	15.8
30°-40°	741.7	18.8
40°-50°	743.1	18.8
50°-60°	630.8	16.0
60°-70°	425.3	10.8
70°-80°	186.9	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°	1190.9	30.2
0°-40°	1932.7	48.9
0°-60°	3306.5	83.7
0°-90°	3949.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3949.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1567	1567	1567	1567	1567	
5°	1556	1552	1556	1552	1589	147
15°	1490	1472	1482	1489	1490	415
25°	1332	1339	1361	1379	1376	616
35°	1159	1163	1190	1217	1216	720
45°	933	950	966	991	967	721
55°	697	692	711	706	706	620
65°	428	423	439	422	425	426
75°	178	175	178	165	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°	1566.9	1566.9	1566.9	1566.9	1566.9
2.5°	1580.4	1568.5	1557.4	1570.3	1578.2
5°	1555.7	1552.1	1556.3	1551.7	1589.1
7.5°	1523.8	1537.7	1545.8	1540.8	1543.0
10°	1506.8	1501.9	1519.9	1532.5	1530.7
12.5°	1488.6	1495.9	1496.9	1510.4	1511.6
15°	1489.6	1472.4	1481.5	1489.2	1489.8
17.5°	1431.7	1450.3	1456.6	1474.2	1452.4
20°	1424.6	1411.1	1424.6	1442.6	1439.8
22.5°	1381.1	1366.0	1395.1	1411.1	1410.1
25°	1331.8	1339.1	1360.9	1378.7	1375.9
27.5°	1288.5	1297.0	1328.1	1352.6	1336.8
30°	1255.1	1250.9	1277.2	1299.0	1311.1
32.5°	1195.4	1210.8	1241.6	1263.2	1251.7
35°	1159.2	1162.7	1189.6	1217.1	1216.3
37.5°	1095.9	1111.9	1149.7	1157.4	1150.3
40°	1041.9	1057.9	1092.1	1100.3	1096.9
42.5°	1002.0	1004.9	1034.2	1043.7	1028.5
45°	932.6	950.0	965.8	990.7	967.2
47.5°	873.6	881.7	915.6	922.3	910.0
50°	819.9	822.8	857.0	848.7	840.6
52.5°	752.6	764.5	783.7	782.1	772.6
55°	697.1	692.5	710.7	705.8	705.6
57.5°	630.6	638.7	653.7	646.0	633.6
60°	568.3	568.5	573.9	565.2	563.6
62.5°	498.9	501.3	502.5	491.8	509.2
65°	428.3	422.6	439.2	422.4	425.2
67.5°	363.3	366.2	364.6	354.0	358.1
70°	297.4	301.0	298.4	286.5	290.1
72.5°	237.1	232.7	235.5	220.5	227.4
75°	178.2	174.6	177.8	165.3	170.9
77.5°	121.4	124.2	122.2	115.5	119.4
80°	80.1	77.9	77.9	74.0	74.9
82.5°	46.7	44.5	43.9	42.7	44.5
85°	21.8	21.2	21.6	21.0	20.2
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)