

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: P590414

Luminaire Tested: FSR-24-2-LD4-2STD-50-UNV-93-85-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590414
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-93-85-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3937.0 lumens
Efficiency: N/A
Efficacy: 118.2 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

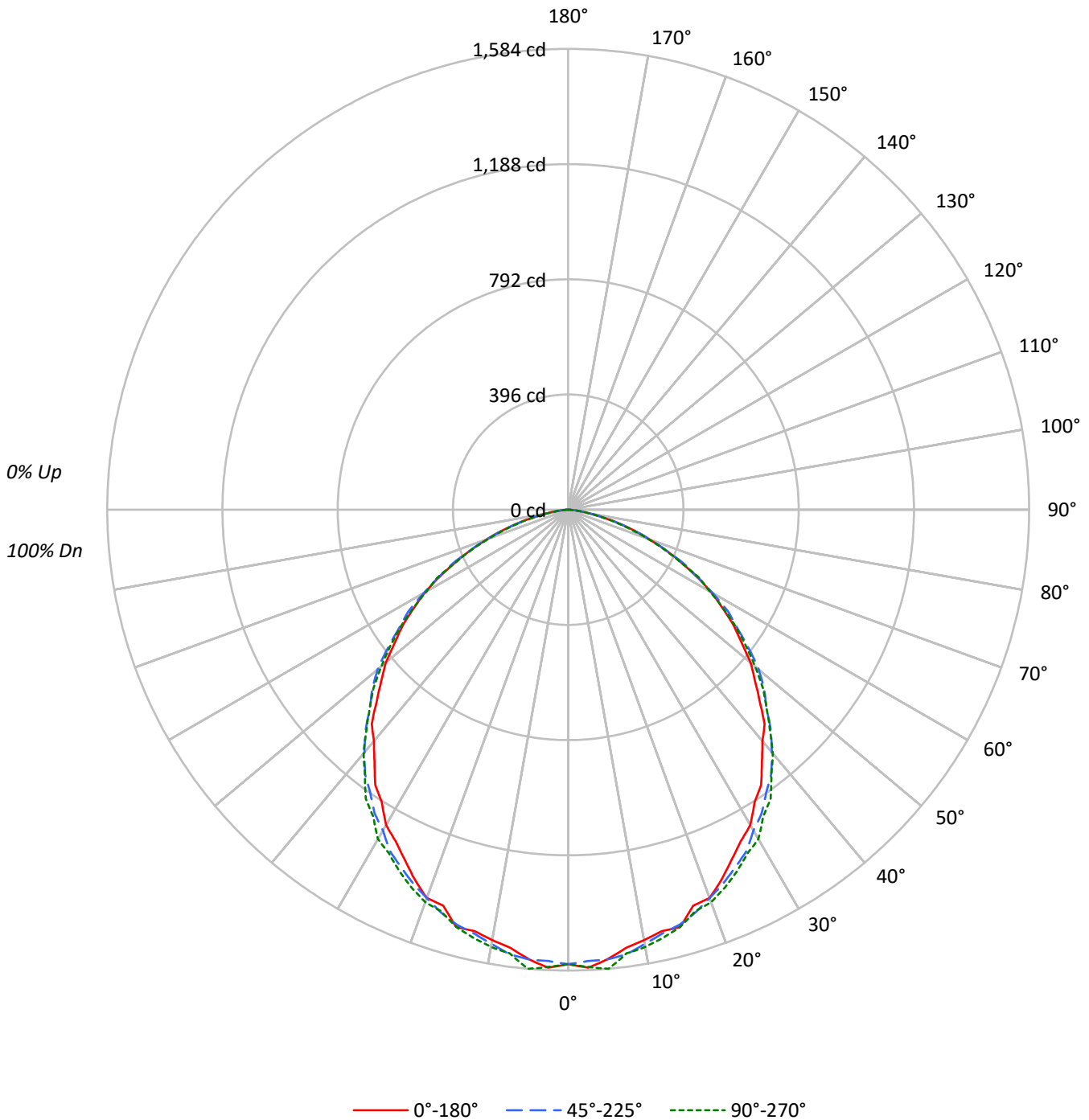
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20																		
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°	4204	4204	4204
5°	4190	4191	4280
10°	4105	4141	4170
15°	4137	4115	4138
20°	4067	4067	4111
25°	3942	4029	4073
30°	3888	3956	4062
35°	3797	3896	3983
40°	3649	3824	3842
45°	3538	3664	3670
50°	3422	3577	3508
55°	3261	3324	3301
60°	3049	3080	3024
65°	2719	2788	2700
70°	2333	2341	2275
75°	1848	1843	1772
80°	1238	1204	1156
85°	673	667	624

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 3759 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.9	3.7
10°-20°	416.4	10.6
20°-30°	623.9	15.8
30°-40°	739.5	18.8
40°-50°	740.8	18.8
50°-60°	628.9	16.0
60°-70°	424.0	10.8
70°-80°	186.3	4.7
80°-90°	30.3	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°	1187.3	30.2
0°-40°	1926.8	48.9
0°-60°	3296.5	83.7
0°-90°	3937.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3937.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1562	1562	1562	1562	1562	
5°	1551	1547	1552	1547	1584	146
15°	1485	1468	1477	1485	1485	414
25°	1328	1335	1357	1374	1372	614
35°	1156	1159	1186	1213	1213	718
45°	930	947	963	988	964	719
55°	695	690	708	704	704	618
65°	427	421	438	421	424	425
75°	178	174	177	165	170	190
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°	1562.1	1562.1	1562.1	1562.1	1562.1
2.5°	1575.6	1563.7	1552.6	1565.5	1573.4
5°	1551.0	1547.4	1551.6	1547.0	1584.3
7.5°	1519.1	1533.1	1541.1	1536.1	1538.3
10°	1502.2	1497.4	1515.3	1527.8	1526.0
12.5°	1484.0	1491.3	1492.3	1505.8	1507.0
15°	1485.1	1467.9	1477.0	1484.7	1485.3
17.5°	1427.4	1445.9	1452.2	1469.7	1447.9
20°	1420.3	1406.8	1420.3	1438.3	1435.4
22.5°	1376.9	1361.8	1390.9	1406.8	1405.8
25°	1327.7	1335.0	1356.8	1374.5	1371.7
27.5°	1284.6	1293.0	1324.1	1348.5	1332.8
30°	1251.3	1247.1	1273.3	1295.1	1307.2
32.5°	1191.8	1207.1	1237.8	1259.4	1247.9
35°	1155.7	1159.1	1185.9	1213.4	1212.6
37.5°	1092.6	1108.5	1146.2	1153.9	1146.8
40°	1038.7	1054.6	1088.7	1097.0	1093.6
42.5°	999.0	1001.8	1031.0	1040.5	1025.4
45°	929.8	947.1	962.9	987.7	964.3
47.5°	870.9	879.0	912.9	919.5	907.2
50°	817.5	820.3	854.4	846.1	838.0
52.5°	750.3	762.2	781.4	779.7	770.3
55°	695.0	690.4	708.5	703.7	703.5
57.5°	628.7	636.7	651.7	644.0	631.7
60°	566.6	566.8	572.2	563.5	561.9
62.5°	497.4	499.8	501.0	490.3	507.7
65°	427.0	421.3	437.9	421.1	424.0
67.5°	362.2	365.1	363.4	353.0	357.0
70°	296.5	300.1	297.5	285.6	289.2
72.5°	236.4	231.9	234.8	219.8	226.7
75°	177.7	174.1	177.3	164.8	170.4
77.5°	121.0	123.8	121.8	115.2	119.0
80°	79.9	77.7	77.7	73.8	74.6
82.5°	46.6	44.4	43.8	42.6	44.4
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)