

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: P561194

Luminaire Tested: FSR-12-4-LD4-1STD-35-UNV-93-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561194
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-12-4-LD4-1STD-35-UNV-93-94-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2791.0 lumens
Efficiency: N/A
Efficacy: 83.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

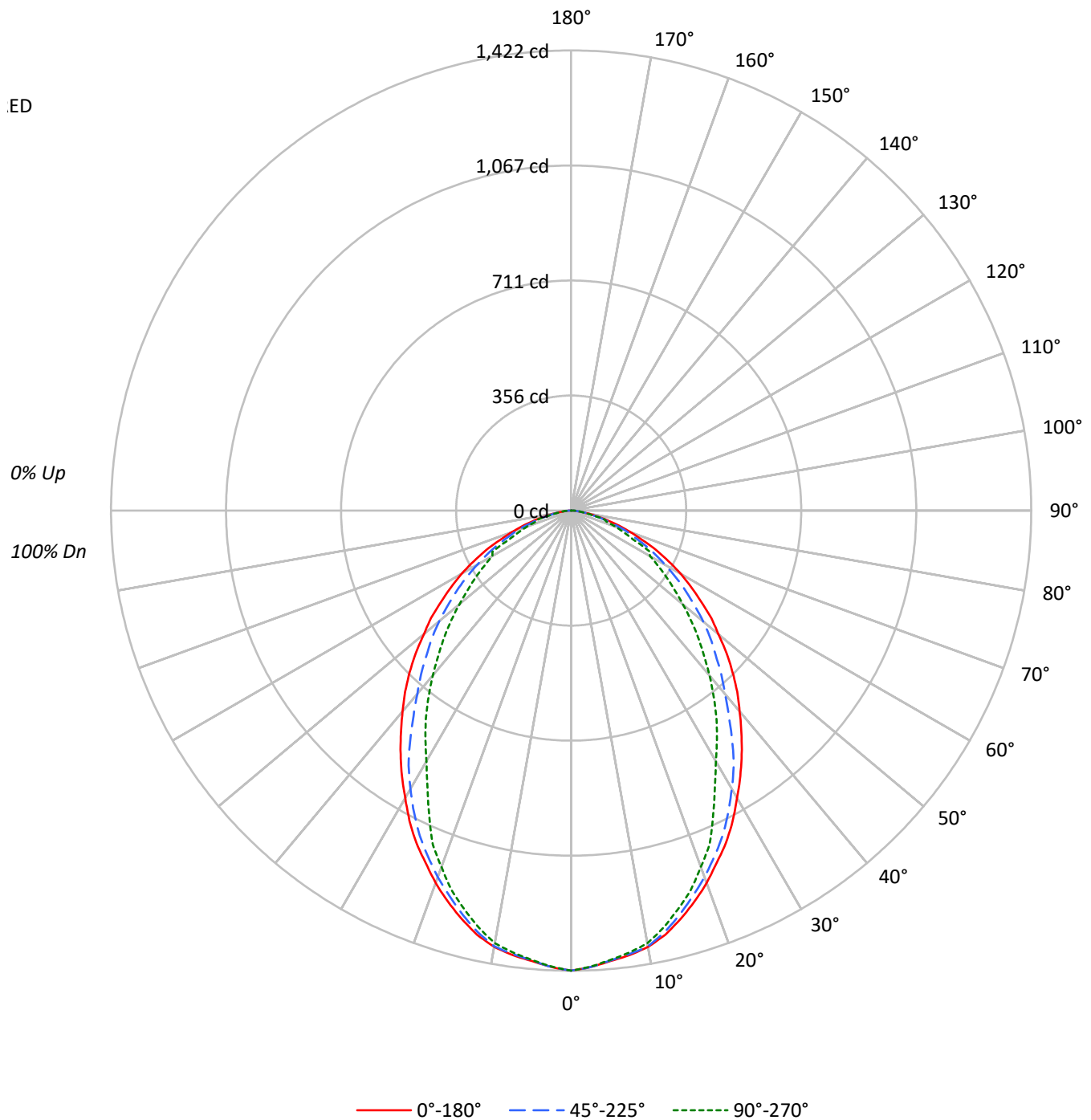
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																												
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3826	3826	3826
5°	3774	3769	3765
10°	3741	3737	3710
15°	3640	3604	3553
20°	3507	3450	3356
25°	3362	3289	3084
30°	3187	3085	2778
35°	3018	2851	2570
40°	2846	2598	2338
45°	2683	2402	2114
50°	2484	2229	1885
55°	2298	2020	1688
60°	2105	1805	1513
65°	1852	1580	1340
70°	1526	1384	1138
75°	1213	1059	1110
80°	815	764	713
85°	506	608	710

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2683 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	132.3	4.7
10°-20°	363.2	13.0
20°-30°	502.8	18.0
30°-40°	536.2	19.2
40°-50°	489.1	17.5
50°-60°	383.2	13.7
60°-70°	249.8	8.9
70°-80°	110.6	4.0
80°-90°	23.8	0.9
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°	998.4	35.8
0°-40°	1534.5	55.0
0°-60°	2406.8	86.2
0°-90°	2791.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2791.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1422	1422	1422	1422	1422	
5°	1397	1395	1395	1394	1394	133
15°	1307	1307	1294	1280	1275	367
25°	1132	1126	1108	1068	1039	520
35°	919	912	868	802	782	574
45°	705	690	631	578	556	543
55°	490	475	431	380	360	439
65°	291	274	248	253	210	287
75°	117	108	102	97	107	125
85°	16	18	20	21	23	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1421.7	1421.7	1421.7	1421.7	1421.7
2.5°	1411.8	1411.8	1411.8	1410.2	1410.2
5°	1397.0	1395.4	1395.4	1393.8	1393.8
7.5°	1385.5	1383.9	1382.3	1380.6	1377.3
10°	1369.1	1369.1	1367.5	1359.2	1357.6
12.5°	1342.8	1341.2	1334.6	1323.1	1319.8
15°	1306.6	1306.6	1293.5	1280.4	1275.4
17.5°	1267.2	1265.6	1249.1	1236.0	1229.4
20°	1224.5	1221.2	1204.7	1183.4	1171.9
22.5°	1176.8	1176.8	1157.1	1129.1	1117.6
25°	1132.4	1125.9	1107.8	1068.3	1038.7
27.5°	1081.5	1071.6	1051.9	996.0	961.5
30°	1025.6	1020.7	992.7	920.4	894.1
32.5°	973.0	964.8	935.2	859.6	838.2
35°	918.8	912.2	867.8	802.1	782.3
37.5°	864.5	856.3	800.4	747.8	723.2
40°	810.3	800.4	739.6	691.9	665.7
42.5°	759.3	746.2	687.0	636.1	606.5
45°	705.1	690.3	631.1	578.5	555.5
47.5°	650.9	637.7	583.5	529.2	502.9
50°	593.3	581.8	532.5	478.3	450.3
52.5°	545.7	527.6	479.9	425.7	402.7
55°	489.8	475.0	430.6	379.7	359.9
57.5°	438.8	424.0	383.0	335.3	318.9
60°	391.2	369.8	335.3	294.2	281.1
62.5°	338.6	322.1	292.6	258.0	274.5
65°	290.9	274.5	248.2	253.1	210.4
67.5°	238.3	230.1	207.1	184.1	177.5
70°	193.9	184.1	175.9	151.2	144.6
72.5°	154.5	144.6	133.1	120.0	115.1
75°	116.7	108.5	101.9	97.0	106.8
77.5°	80.5	77.2	72.3	67.4	65.7
80°	52.6	51.0	49.3	47.7	46.0
82.5°	31.2	31.2	31.2	31.2	31.2
85°	16.4	18.1	19.7	21.4	23.0
87.5°	9.9	9.9	11.5	13.1	14.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)