

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: P561899

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-93-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561899
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-LD4-2STD-50-UNV-93-94-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6853.0 lumens
Efficiency: N/A
Efficacy: 102.9 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

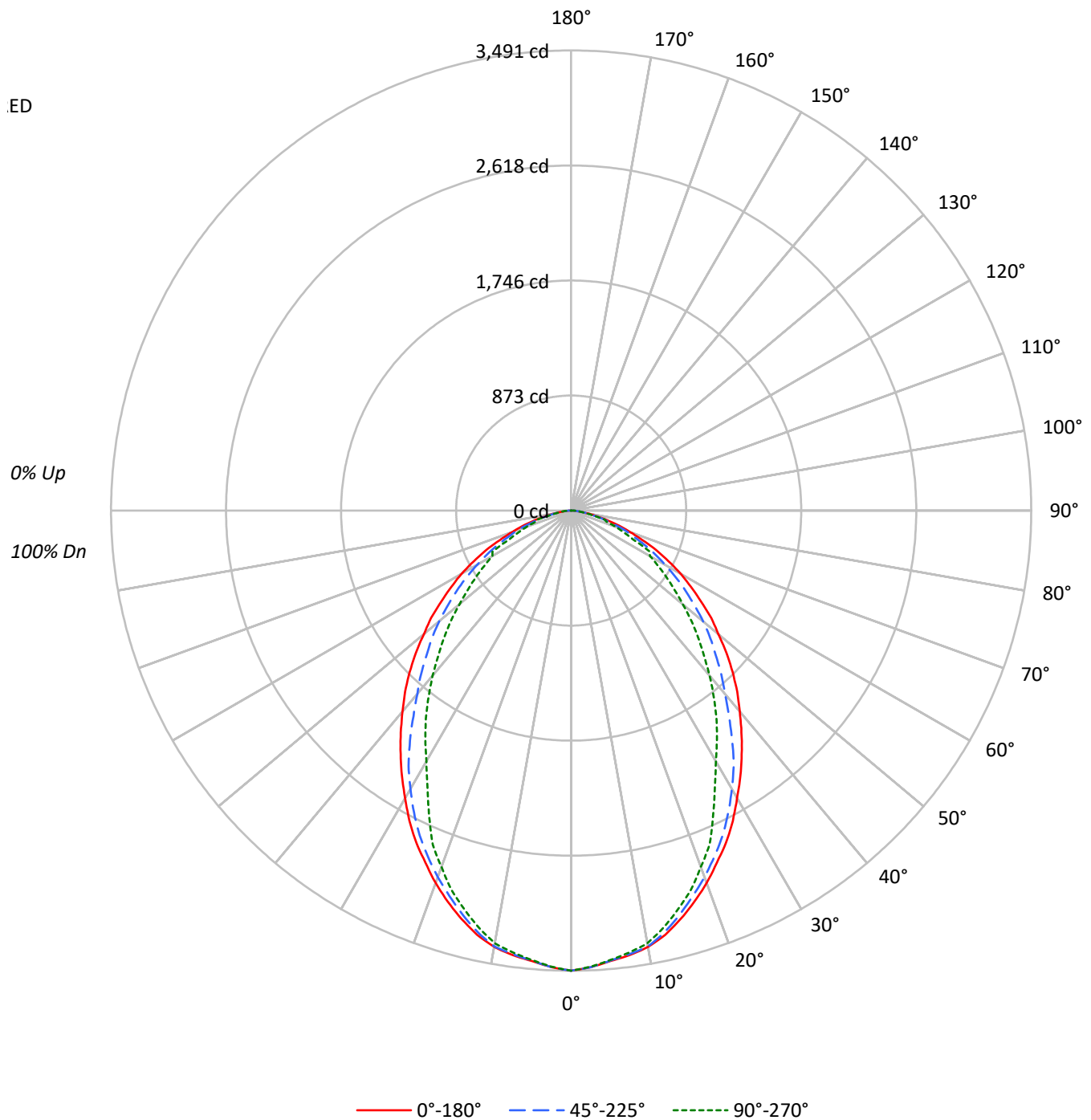
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9394	9394	9394
5°	9266	9255	9244
10°	9186	9175	9108
15°	8938	8848	8725
20°	8610	8471	8240
25°	8256	8076	7573
30°	7825	7574	6822
35°	7411	7000	6311
40°	6989	6379	5741
45°	6589	5898	5191
50°	6099	5474	4629
55°	5642	4960	4146
60°	5169	4431	3714
65°	4548	3880	3289
70°	3747	3397	2794
75°	2979	2601	2727
80°	2001	1877	1751
85°	1247	1494	1744

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6589 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	324.9	4.7
10°-20°	891.8	13.0
20°-30°	1234.6	18.0
30°-40°	1316.5	19.2
40°-50°	1201.0	17.5
50°-60°	940.9	13.7
60°-70°	613.2	8.9
70°-80°	271.7	4.0
80°-90°	58.3	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°	2451.4	35.8
0°-40°	3767.8	55.0
0°-60°	5909.7	86.2
0°-90°	6853.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6853.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3491	3491	3491	3491	3491	
5°	3430	3426	3426	3422	3422	326
15°	3208	3208	3176	3144	3132	902
25°	2781	2764	2720	2623	2550	1277
35°	2256	2240	2131	1969	1921	1410
45°	1731	1695	1550	1420	1364	1334
55°	1203	1166	1057	932	884	1079
65°	714	674	609	622	517	704
75°	286	266	250	238	262	307
85°	40	44	48	52	56	56
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3490.8	3490.8	3490.8	3490.8	3490.8
2.5°	3466.6	3466.6	3466.6	3462.6	3462.6
5°	3430.3	3426.3	3426.3	3422.2	3422.2
7.5°	3402.0	3398.0	3394.0	3389.9	3381.9
10°	3361.7	3361.7	3357.7	3337.5	3333.4
12.5°	3297.1	3293.1	3276.9	3248.7	3240.6
15°	3208.3	3208.3	3176.0	3143.8	3131.7
17.5°	3111.5	3107.4	3067.1	3034.8	3018.7
20°	3006.6	2998.5	2958.1	2905.7	2877.4
22.5°	2889.5	2889.5	2841.1	2772.5	2744.2
25°	2780.6	2764.4	2720.0	2623.2	2550.5
27.5°	2655.4	2631.2	2582.8	2445.6	2360.8
30°	2518.2	2506.1	2437.5	2260.0	2195.4
32.5°	2389.1	2368.9	2296.3	2110.6	2058.2
35°	2255.9	2239.8	2130.8	1969.4	1921.0
37.5°	2122.7	2102.6	1965.4	1836.2	1775.7
40°	1989.6	1965.4	1816.0	1699.0	1634.4
42.5°	1864.5	1832.2	1686.9	1561.8	1489.2
45°	1731.3	1695.0	1549.7	1420.5	1364.0
47.5°	1598.1	1565.8	1432.7	1299.5	1234.9
50°	1456.9	1428.6	1307.5	1174.4	1105.8
52.5°	1339.8	1295.4	1178.4	1045.2	988.7
55°	1202.6	1166.3	1057.3	932.2	883.8
57.5°	1077.5	1041.2	940.3	823.3	782.9
60°	960.5	908.0	823.3	722.4	690.1
62.5°	831.3	791.0	718.3	633.6	674.0
65°	714.3	674.0	609.4	621.5	516.6
67.5°	585.2	565.0	508.5	452.0	435.8
70°	476.2	452.0	431.8	371.3	355.1
72.5°	379.3	355.1	326.9	294.6	282.5
75°	286.5	266.4	250.2	238.1	262.3
77.5°	197.7	189.7	177.6	165.5	161.4
80°	129.1	125.1	121.1	117.0	113.0
82.5°	76.7	76.7	76.7	76.7	76.7
85°	40.4	44.4	48.4	52.5	56.5
87.5°	24.2	24.2	28.2	32.3	36.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)