

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: P561261

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-93-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561261
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-40-UNV-93-96-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3332.0 lumens
Efficiency: N/A
Efficacy: 100.1 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

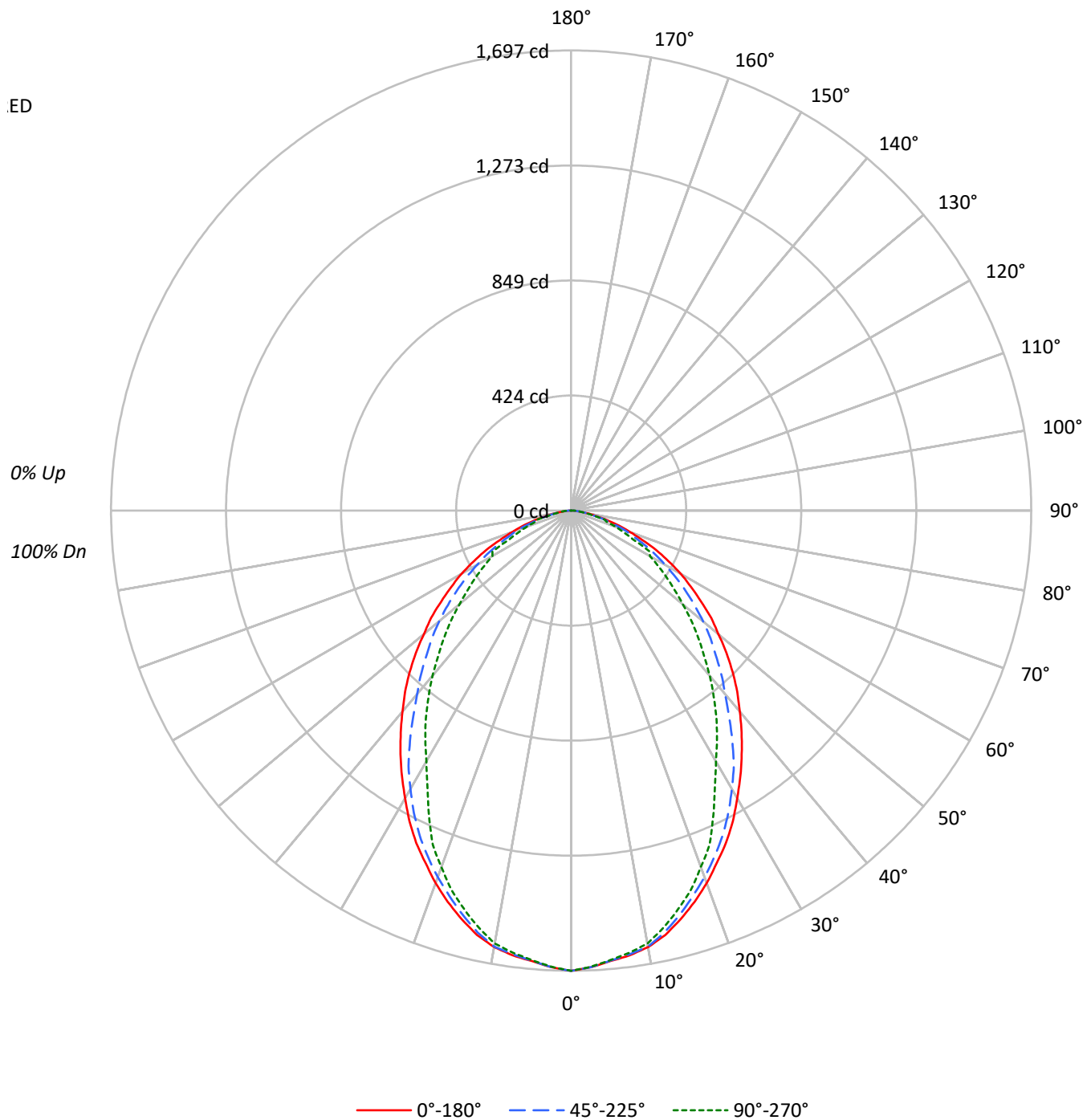
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4567	4567	4567
5°	4505	4500	4495
10°	4466	4461	4429
15°	4346	4302	4242
20°	4186	4119	4006
25°	4014	3927	3682
30°	3805	3683	3317
35°	3603	3403	3068
40°	3398	3102	2792
45°	3204	2868	2524
50°	2965	2661	2251
55°	2743	2412	2016
60°	2513	2154	1806
65°	2211	1887	1599
70°	1821	1652	1359
75°	1448	1265	1326
80°	973	913	851
85°	605	726	849

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3204 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	158.0	4.7
10°-20°	433.6	13.0
20°-30°	600.3	18.0
30°-40°	640.1	19.2
40°-50°	583.9	17.5
50°-60°	457.5	13.7
60°-70°	298.2	8.9
70°-80°	132.1	4.0
80°-90°	28.4	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°	1191.9	35.8
0°-40°	1832.0	55.0
0°-60°	2873.4	86.2
0°-90°	3332.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3332.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1697	1697	1697	1697	1697	
5°	1668	1666	1666	1664	1664	158
15°	1560	1560	1544	1528	1523	439
25°	1352	1344	1322	1275	1240	621
35°	1097	1089	1036	958	934	686
45°	842	824	754	691	663	648
55°	585	567	514	453	430	524
65°	347	328	296	302	251	342
75°	139	130	122	116	128	149
85°	20	22	24	26	28	27
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1697.3	1697.3	1697.3	1697.3	1697.3
2.5°	1685.5	1685.5	1685.5	1683.5	1683.5
5°	1667.8	1665.9	1665.9	1663.9	1663.9
7.5°	1654.1	1652.1	1650.2	1648.2	1644.3
10°	1634.5	1634.5	1632.5	1622.7	1620.8
12.5°	1603.1	1601.1	1593.3	1579.5	1575.6
15°	1559.9	1559.9	1544.2	1528.5	1522.6
17.5°	1512.8	1510.9	1491.2	1475.6	1467.7
20°	1461.8	1457.9	1438.3	1412.8	1399.0
22.5°	1404.9	1404.9	1381.4	1348.0	1334.3
25°	1351.9	1344.1	1322.5	1275.4	1240.1
27.5°	1291.1	1279.3	1255.8	1189.1	1147.9
30°	1224.4	1218.5	1185.2	1098.8	1067.4
32.5°	1161.6	1151.8	1116.5	1026.2	1000.7
35°	1096.9	1089.0	1036.0	957.5	934.0
37.5°	1032.1	1022.3	955.6	892.8	863.4
40°	967.3	955.6	883.0	826.1	794.7
42.5°	906.5	890.8	820.2	759.4	724.0
45°	841.8	824.1	753.5	690.7	663.2
47.5°	777.0	761.3	696.6	631.8	600.4
50°	708.3	694.6	635.7	571.0	537.6
52.5°	651.4	629.9	573.0	508.2	480.7
55°	584.7	567.1	514.1	453.3	429.7
57.5°	523.9	506.2	457.2	400.3	380.7
60°	467.0	441.5	400.3	351.2	335.5
62.5°	404.2	384.6	349.3	308.1	327.7
65°	347.3	327.7	296.3	302.2	251.2
67.5°	284.5	274.7	247.2	219.8	211.9
70°	231.5	219.8	210.0	180.5	172.7
72.5°	184.4	172.7	158.9	143.2	137.4
75°	139.3	129.5	121.7	115.8	127.5
77.5°	96.1	92.2	86.3	80.4	78.5
80°	62.8	60.8	58.9	56.9	54.9
82.5°	37.3	37.3	37.3	37.3	37.3
85°	19.6	21.6	23.5	25.5	27.5
87.5°	11.8	11.8	13.7	15.7	17.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)