

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: P561249

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-93-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561249
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-93-84-EDD
Description: 1X4 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: 3361.0 lumens
Efficiency: N/A
Efficacy: 100.9 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

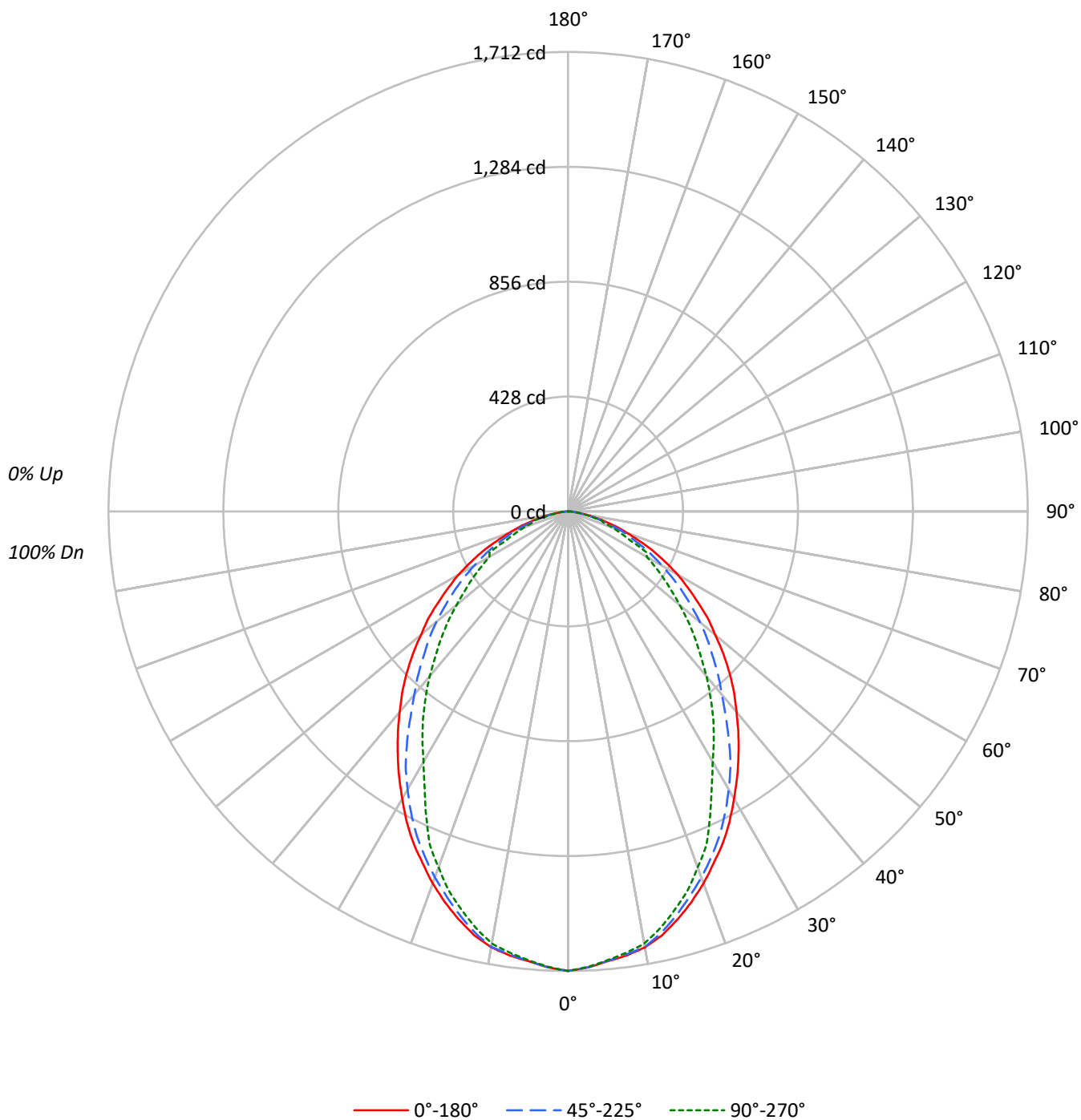
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
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°	4607	4607	4607
5°	4545	4539	4534
10°	4505	4500	4467
15°	4384	4340	4279
20°	4222	4155	4041
25°	4049	3961	3714
30°	3838	3715	3346
35°	3635	3433	3095
40°	3428	3129	2816
45°	3231	2892	2546
50°	2991	2685	2270
55°	2767	2433	2034
60°	2535	2173	1822
65°	2230	1903	1613
70°	1838	1666	1371
75°	1461	1276	1338
80°	981	921	859
85°	611	735	855

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3231 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	159.4	4.7
10°-20°	437.4	13.0
20°-30°	605.5	18.0
30°-40°	645.7	19.2
40°-50°	589.0	17.5
50°-60°	461.5	13.7
60°-70°	300.8	8.9
70°-80°	133.2	4.0
80°-90°	28.6	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°	1202.3	35.8
0°-40°	1847.9	55.0
0°-60°	2898.4	86.2
0°-90°	3361.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3361.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1712	1712	1712	1712	1712	
5°	1682	1680	1680	1678	1678	160
15°	1574	1574	1558	1542	1536	442
25°	1364	1356	1334	1286	1251	626
35°	1106	1098	1045	966	942	692
45°	849	831	760	697	669	654
55°	590	572	519	457	434	529
65°	350	330	299	305	253	345
75°	140	131	123	117	129	151
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°	1712.0	1712.0	1712.0	1712.0	1712.0
2.5°	1700.2	1700.2	1700.2	1698.2	1698.2
5°	1682.4	1680.4	1680.4	1678.4	1678.4
7.5°	1668.5	1666.5	1664.5	1662.6	1658.6
10°	1648.7	1648.7	1646.7	1636.8	1634.9
12.5°	1617.0	1615.1	1607.1	1593.3	1589.3
15°	1573.5	1573.5	1557.7	1541.8	1535.9
17.5°	1526.0	1524.0	1504.2	1488.4	1480.5
20°	1474.5	1470.6	1450.8	1425.1	1411.2
22.5°	1417.1	1417.1	1393.4	1359.7	1345.9
25°	1363.7	1355.8	1334.0	1286.5	1250.9
27.5°	1302.3	1290.5	1266.7	1199.4	1157.9
30°	1235.1	1229.1	1195.5	1108.4	1076.7
32.5°	1171.7	1161.8	1126.2	1035.1	1009.4
35°	1106.4	1098.5	1045.0	965.9	942.1
37.5°	1041.1	1031.2	963.9	900.6	870.9
40°	975.8	963.9	890.7	833.3	801.6
42.5°	914.4	898.6	827.3	766.0	730.3
45°	849.1	831.3	760.0	696.7	669.0
47.5°	783.8	767.9	702.6	637.3	605.6
50°	714.5	700.7	641.3	576.0	542.3
52.5°	657.1	635.3	577.9	512.6	484.9
55°	589.8	572.0	518.6	457.2	433.5
57.5°	528.5	510.6	461.2	403.8	384.0
60°	471.1	445.3	403.8	354.3	338.5
62.5°	407.7	387.9	352.3	310.7	330.5
65°	350.3	330.5	298.9	304.8	253.3
67.5°	287.0	277.1	249.4	221.7	213.8
70°	233.6	221.7	211.8	182.1	174.2
72.5°	186.0	174.2	160.3	144.5	138.5
75°	140.5	130.6	122.7	116.8	128.7
77.5°	97.0	93.0	87.1	81.1	79.2
80°	63.3	61.4	59.4	57.4	55.4
82.5°	37.6	37.6	37.6	37.6	37.6
85°	19.8	21.8	23.8	25.7	27.7
87.5°	11.9	11.9	13.9	15.8	17.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)