

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: P561443

Luminaire Tested: FSR-12-4-LD4-2HI-40-UNV-93-85-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561443
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-LD4-2HI-40-UNV-93-85-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8082.0 lumens
Efficiency: N/A
Efficacy: 93.5 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

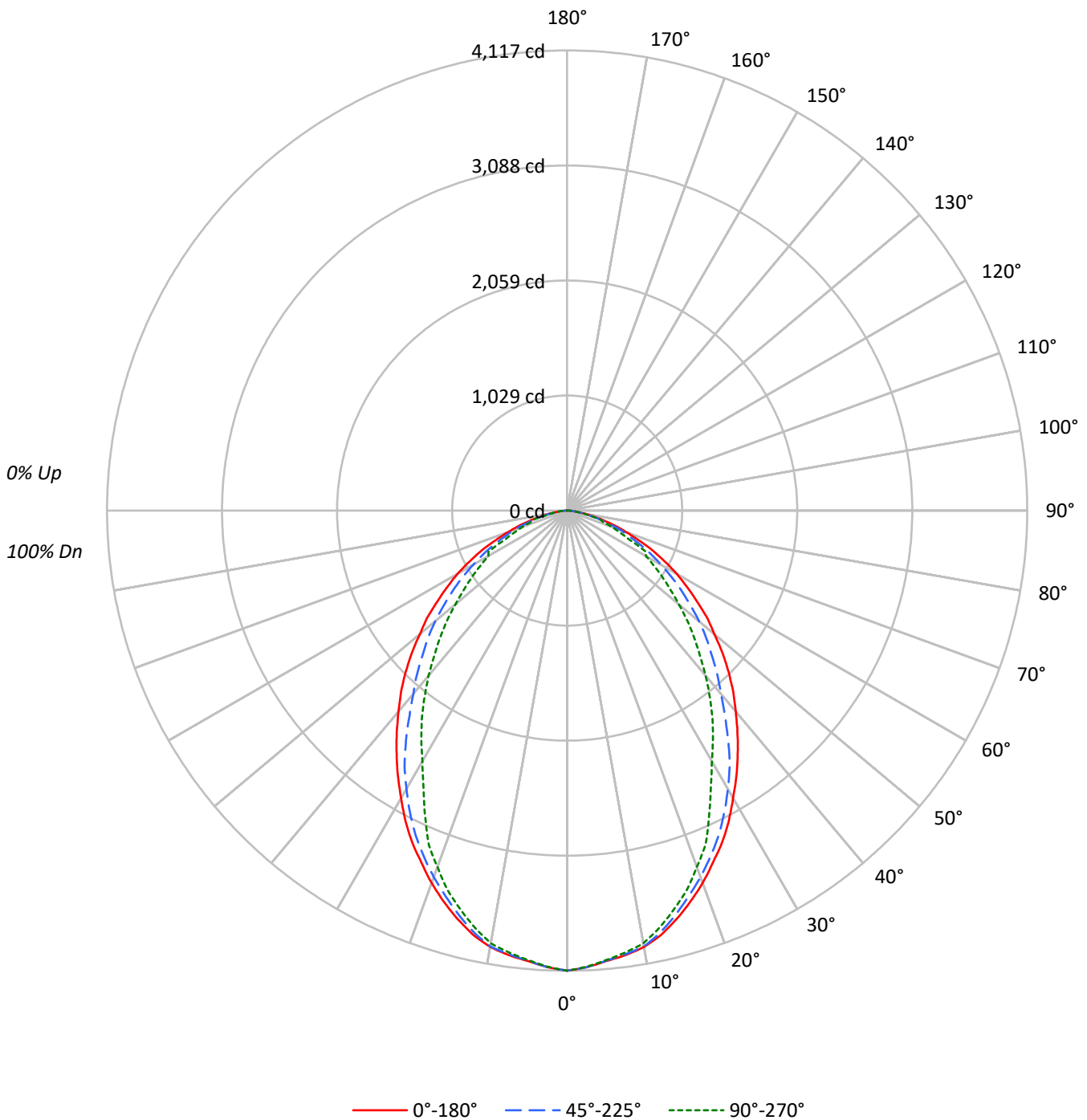
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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									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	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°	11078	11078	11078
5°	10928	10915	10902
10°	10833	10820	10742
15°	10541	10435	10289
20°	10154	9990	9718
25°	9736	9524	8931
30°	9228	8932	8045
35°	8740	8255	7442
40°	8242	7523	6771
45°	7770	6955	6122
50°	7193	6455	5460
55°	6654	5850	4890
60°	6096	5225	4380
65°	5364	4576	3879
70°	4419	4007	3295
75°	3513	3068	3217
80°	2360	2213	2066
85°	1470	1763	2056

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7770 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	383.2	4.7
10°-20°	1051.7	13.0
20°-30°	1456.0	18.0
30°-40°	1552.6	19.2
40°-50°	1416.4	17.5
50°-60°	1109.6	13.7
60°-70°	723.2	8.9
70°-80°	320.4	4.0
80°-90°	68.8	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°	2891.0	35.8
0°-40°	4443.6	55.0
0°-60°	6969.6	86.2
0°-90°	8082.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8082.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4117	4117	4117	4117	4117	
5°	4046	4041	4041	4036	4036	384
15°	3784	3784	3746	3708	3693	1064
25°	3279	3260	3208	3094	3008	1505
35°	2660	2642	2513	2323	2266	1663
45°	2042	1999	1828	1675	1609	1573
55°	1418	1376	1247	1099	1042	1272
65°	842	795	719	733	609	830
75°	338	314	295	281	309	362
85°	48	52	57	62	67	66
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4116.9	4116.9	4116.9	4116.9	4116.9
2.5°	4088.3	4088.3	4088.3	4083.5	4083.5
5°	4045.5	4040.7	4040.7	4036.0	4036.0
7.5°	4012.2	4007.4	4002.6	3997.9	3988.4
10°	3964.6	3964.6	3959.8	3936.0	3931.2
12.5°	3888.4	3883.7	3864.6	3831.3	3821.8
15°	3783.7	3783.7	3745.6	3707.6	3693.3
17.5°	3669.5	3664.7	3617.1	3579.1	3560.0
20°	3545.7	3536.2	3488.6	3426.8	3393.4
22.5°	3407.7	3407.7	3350.6	3269.7	3236.4
25°	3279.2	3260.2	3207.8	3093.6	3007.9
27.5°	3131.7	3103.1	3046.0	2884.2	2784.2
30°	2969.9	2955.6	2874.7	2665.3	2589.1
32.5°	2817.6	2793.8	2708.1	2489.2	2427.3
35°	2660.5	2641.5	2513.0	2322.6	2265.5
37.5°	2503.4	2479.6	2317.8	2165.5	2094.1
40°	2346.4	2317.8	2141.7	2003.7	1927.5
42.5°	2198.8	2160.8	1989.4	1841.9	1756.2
45°	2041.8	1998.9	1827.6	1675.3	1608.7
47.5°	1884.7	1846.6	1689.6	1532.5	1456.4
50°	1718.1	1684.8	1542.0	1385.0	1304.1
52.5°	1580.1	1527.8	1389.7	1232.7	1166.0
55°	1418.3	1375.5	1247.0	1099.4	1042.3
57.5°	1270.8	1227.9	1108.9	970.9	923.3
60°	1132.7	1070.9	970.9	851.9	813.9
62.5°	980.4	932.8	847.2	747.2	794.8
65°	842.4	794.8	718.7	732.9	609.2
67.5°	690.1	666.3	599.7	533.1	514.0
70°	561.6	533.1	509.3	437.9	418.8
72.5°	447.4	418.8	385.5	347.4	333.2
75°	337.9	314.1	295.1	280.8	309.4
77.5°	233.2	223.7	209.4	195.1	190.4
80°	152.3	147.5	142.8	138.0	133.3
82.5°	90.4	90.4	90.4	90.4	90.4
85°	47.6	52.4	57.1	61.9	66.6
87.5°	28.6	28.6	33.3	38.1	42.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)