

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: P561431

Luminaire Tested: FSR-12-4-LD4-2HI-40-UNV-82-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561431
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-82-87-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

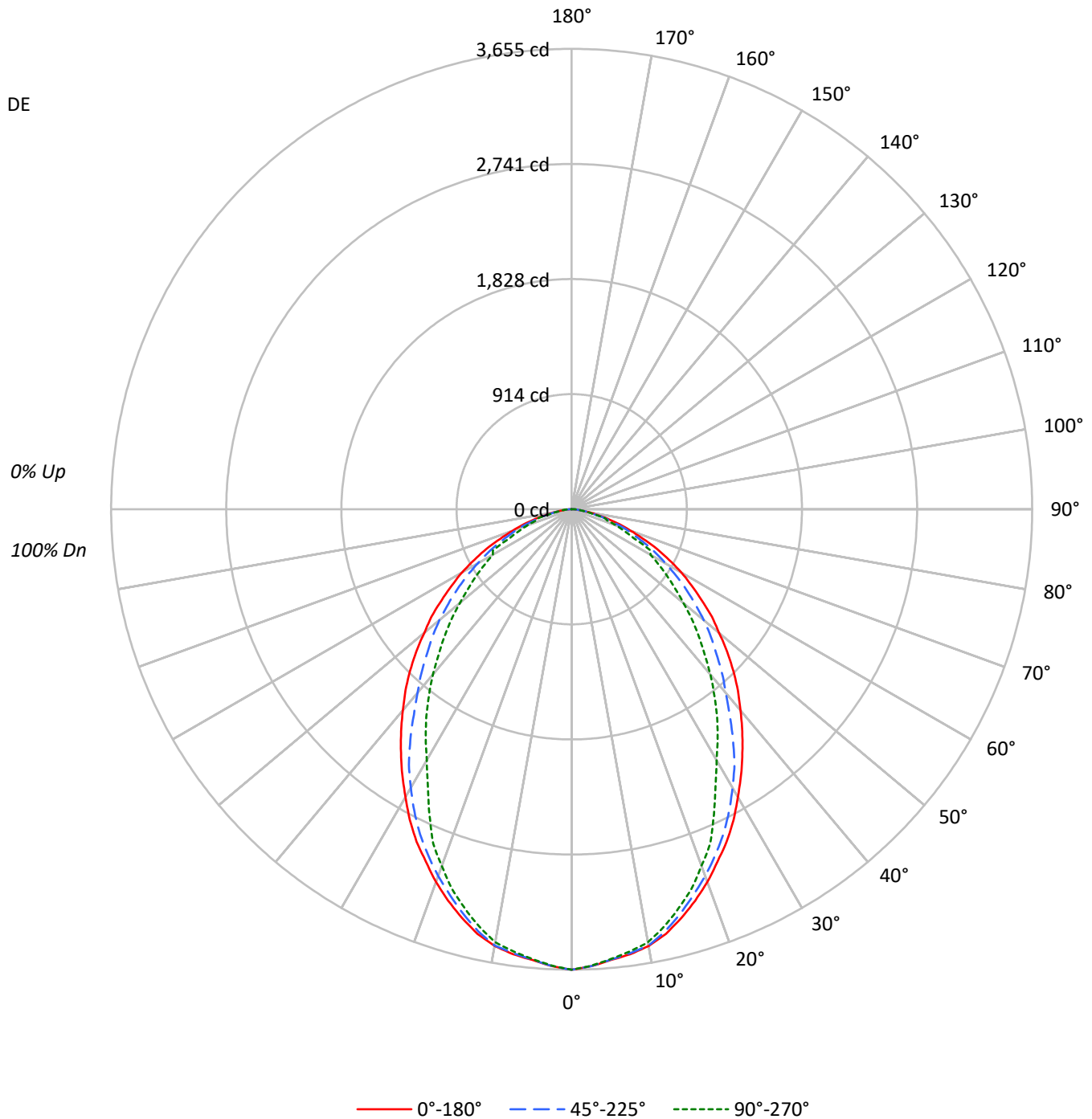
Lumens per Lamp: N/A
Luminaire Lumens: 7176.0 lumens
Efficiency: N/A
Efficacy: 83.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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									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°	9837	9837	9837
5°	9703	9691	9680
10°	9619	9607	9538
15°	9359	9265	9136
20°	9016	8870	8628
25°	8645	8457	7930
30°	8194	7931	7143
35°	7760	7330	6608
40°	7318	6680	6012
45°	6899	6175	5436
50°	6386	5732	4847
55°	5908	5195	4342
60°	5413	4640	3889
65°	4763	4063	3444
70°	3924	3558	2926
75°	3119	2724	2856
80°	2095	1965	1833
85°	1306	1565	1828

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6899 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	340.3	4.7
10°-20°	933.8	13.0
20°-30°	1292.8	18.0
30°-40°	1378.5	19.2
40°-50°	1257.6	17.5
50°-60°	985.2	13.7
60°-70°	642.1	8.9
70°-80°	284.5	4.0
80°-90°	61.1	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°	2566.9	35.8
0°-40°	3945.4	55.0
0°-60°	6188.3	86.2
0°-90°	7176.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7176.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3655	3655	3655	3655	3655	
5°	3592	3588	3588	3584	3584	341
15°	3360	3360	3326	3292	3279	944
25°	2912	2895	2848	2747	2671	1337
35°	2362	2345	2231	2062	2012	1477
45°	1813	1775	1623	1488	1428	1396
55°	1259	1221	1107	976	926	1130
65°	748	706	638	651	541	737
75°	300	279	262	249	275	322
85°	42	46	51	55	59	59
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3655.4	3655.4	3655.4	3655.4	3655.4
2.5°	3630.0	3630.0	3630.0	3625.8	3625.8
5°	3592.0	3587.7	3587.7	3583.5	3583.5
7.5°	3562.4	3558.2	3553.9	3549.7	3541.3
10°	3520.1	3520.1	3515.9	3494.8	3490.6
12.5°	3452.5	3448.3	3431.4	3401.8	3393.4
15°	3359.5	3359.5	3325.7	3291.9	3279.3
17.5°	3258.1	3253.9	3211.6	3177.8	3160.9
20°	3148.3	3139.8	3097.5	3042.6	3013.0
22.5°	3025.7	3025.7	2975.0	2903.2	2873.6
25°	2911.6	2894.7	2848.2	2746.8	2670.7
27.5°	2780.6	2755.3	2704.5	2560.9	2472.1
30°	2636.9	2624.3	2552.4	2366.5	2298.9
32.5°	2501.7	2480.6	2404.5	2210.1	2155.2
35°	2362.2	2345.3	2231.2	2062.2	2011.5
37.5°	2222.8	2201.7	2058.0	1922.8	1859.4
40°	2083.3	2058.0	1901.6	1779.1	1711.5
42.5°	1952.3	1918.5	1766.4	1635.4	1559.3
45°	1812.9	1774.9	1622.7	1487.5	1428.3
47.5°	1673.4	1639.6	1500.2	1360.7	1293.1
50°	1525.5	1496.0	1369.2	1229.7	1157.9
52.5°	1403.0	1356.5	1233.9	1094.5	1035.3
55°	1259.3	1221.3	1107.2	976.2	925.5
57.5°	1128.3	1090.3	984.6	862.1	819.8
60°	1005.8	950.8	862.1	756.4	722.6
62.5°	870.5	828.3	752.2	663.5	705.7
65°	748.0	705.7	638.1	650.8	540.9
67.5°	612.7	591.6	532.5	473.3	456.4
70°	498.7	473.3	452.2	388.8	371.9
72.5°	397.2	371.9	342.3	308.5	295.8
75°	300.0	278.9	262.0	249.3	274.7
77.5°	207.1	198.6	185.9	173.3	169.0
80°	135.2	131.0	126.8	122.5	118.3
82.5°	80.3	80.3	80.3	80.3	80.3
85°	42.3	46.5	50.7	54.9	59.2
87.5°	25.4	25.4	29.6	33.8	38.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)