

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: P561408

Luminaire Tested: FSR-12-4-LD4-2HI-40-UNV-81-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561408
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-81-84-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6569.0 lumens
Efficiency: N/A
Efficacy: 76.0 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

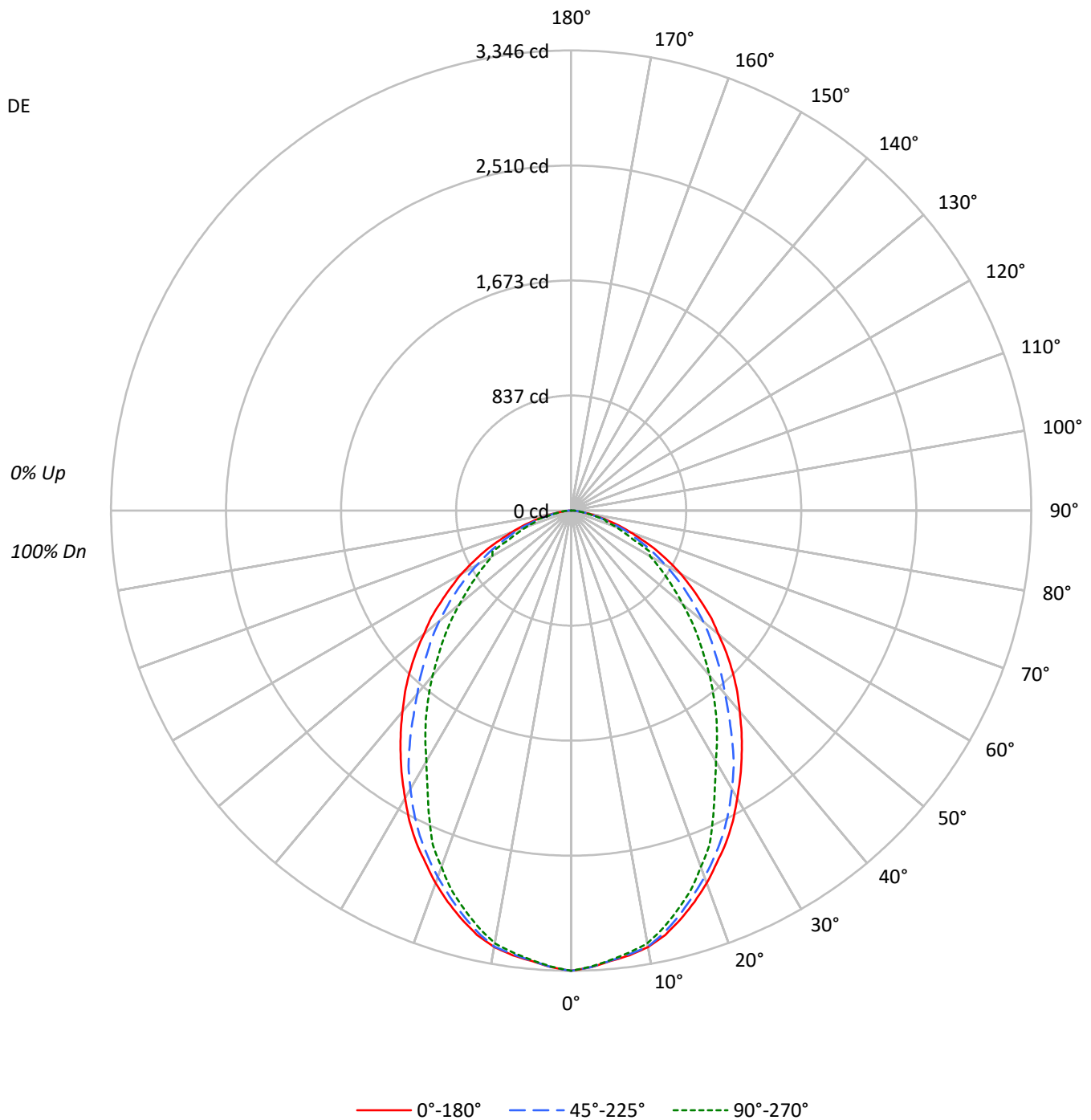
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	9005	9005	9005
5°	8882	8872	8861
10°	8805	8795	8731
15°	8568	8481	8363
20°	8253	8120	7899
25°	7914	7742	7259
30°	7501	7260	6539
35°	7104	6710	6049
40°	6699	6115	5504
45°	6315	5653	4976
50°	5846	5247	4437
55°	5408	4755	3975
60°	4955	4247	3560
65°	4360	3719	3153
70°	3592	3257	2678
75°	2856	2493	2614
80°	1918	1799	1678
85°	1195	1433	1673

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6315 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	311.5	4.7
10°-20°	854.8	13.0
20°-30°	1183.5	18.0
30°-40°	1261.9	19.2
40°-50°	1151.2	17.5
50°-60°	901.9	13.7
60°-70°	587.8	8.9
70°-80°	260.4	4.0
80°-90°	55.9	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°	2349.8	35.8
0°-40°	3611.7	55.0
0°-60°	5664.9	86.2
0°-90°	6569.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6569.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3346	3346	3346	3346	3346	
5°	3288	3284	3284	3280	3280	312
15°	3075	3075	3044	3014	3002	865
25°	2665	2650	2607	2514	2445	1224
35°	2162	2147	2042	1888	1841	1352
45°	1660	1625	1486	1362	1308	1278
55°	1153	1118	1014	894	847	1034
65°	685	646	584	596	495	675
75°	275	255	240	228	251	294
85°	39	43	46	50	54	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3346.2	3346.2	3346.2	3346.2	3346.2
2.5°	3323.0	3323.0	3323.0	3319.1	3319.1
5°	3288.1	3284.3	3284.3	3280.4	3280.4
7.5°	3261.1	3257.2	3253.3	3249.5	3241.7
10°	3222.4	3222.4	3218.5	3199.2	3195.3
12.5°	3160.5	3156.6	3141.1	3114.1	3106.3
15°	3075.4	3075.4	3044.4	3013.5	3001.9
17.5°	2982.5	2978.7	2940.0	2909.0	2893.6
20°	2882.0	2874.2	2835.5	2785.2	2758.2
22.5°	2769.8	2769.8	2723.3	2657.6	2630.5
25°	2665.3	2649.8	2607.3	2514.5	2444.8
27.5°	2545.4	2522.2	2475.8	2344.2	2263.0
30°	2413.9	2402.3	2336.5	2166.3	2104.4
32.5°	2290.1	2270.7	2201.1	2023.2	1972.9
35°	2162.4	2147.0	2042.5	1887.8	1841.4
37.5°	2034.8	2015.4	1883.9	1760.1	1702.1
40°	1907.1	1883.9	1740.8	1628.6	1566.7
42.5°	1787.2	1756.3	1617.0	1497.1	1427.4
45°	1659.5	1624.7	1485.5	1361.7	1307.5
47.5°	1531.9	1500.9	1373.3	1245.6	1183.7
50°	1396.5	1369.4	1253.4	1125.7	1059.9
52.5°	1284.3	1241.8	1129.6	1001.9	947.8
55°	1152.8	1118.0	1013.5	893.6	847.2
57.5°	1032.9	998.0	901.3	789.2	750.5
60°	920.7	870.4	789.2	692.4	661.5
62.5°	796.9	758.2	688.6	607.3	646.0
65°	684.7	646.0	584.1	595.7	495.2
67.5°	560.9	541.6	487.4	433.3	417.8
70°	456.5	433.3	413.9	355.9	340.4
72.5°	363.6	340.4	313.3	282.4	270.8
75°	274.7	255.3	239.8	228.2	251.4
77.5°	189.6	181.8	170.2	158.6	154.7
80°	123.8	119.9	116.1	112.2	108.3
82.5°	73.5	73.5	73.5	73.5	73.5
85°	38.7	42.6	46.4	50.3	54.2
87.5°	23.2	23.2	27.1	30.9	34.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)