

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: P561352

Luminaire Tested: FSR-12-4-LD4-2HI-35-UNV-81-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561352
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-35-UNV-81-88-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5469.0 lumens
Efficiency: N/A
Efficacy: 63.3 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

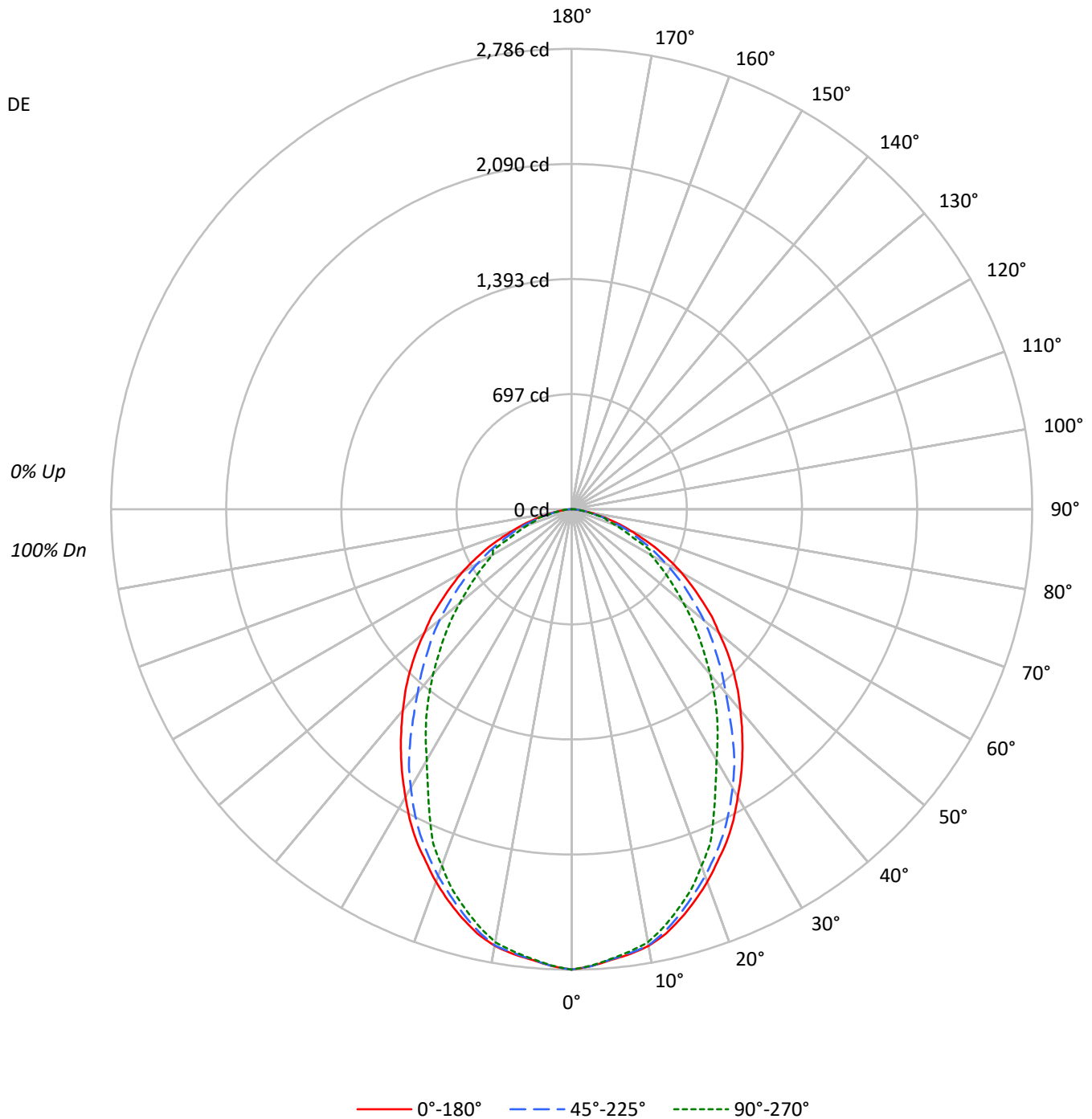
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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																												
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°	7497	7497	7497
5°	7395	7386	7377
10°	7331	7322	7269
15°	7133	7061	6963
20°	6871	6760	6576
25°	6589	6445	6043
30°	6245	6045	5444
35°	5914	5586	5036
40°	5578	5091	4582
45°	5258	4706	4143
50°	4867	4369	3694
55°	4503	3959	3309
60°	4125	3536	2964
65°	3629	3096	2625
70°	2990	2711	2230
75°	2378	2076	2176
80°	1598	1497	1398
85°	994	1192	1392

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5258 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	259.3	4.7
10°-20°	711.7	13.0
20°-30°	985.3	18.0
30°-40°	1050.6	19.2
40°-50°	958.5	17.5
50°-60°	750.9	13.7
60°-70°	489.4	8.9
70°-80°	216.8	4.0
80°-90°	46.5	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°	1956.3	35.8
0°-40°	3006.9	55.0
0°-60°	4716.2	86.2
0°-90°	5469.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5469.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2786	2786	2786	2786	2786	
5°	2738	2734	2734	2731	2731	260
15°	2560	2560	2535	2509	2499	720
25°	2219	2206	2171	2093	2035	1019
35°	1800	1787	1700	1572	1533	1126
45°	1382	1353	1237	1134	1089	1064
55°	960	931	844	744	705	861
65°	570	538	486	496	412	562
75°	229	213	200	190	209	245
85°	32	35	39	42	45	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2785.8	2785.8	2785.8	2785.8	2785.8
2.5°	2766.5	2766.5	2766.5	2763.3	2763.3
5°	2737.5	2734.3	2734.3	2731.1	2731.1
7.5°	2715.0	2711.8	2708.5	2705.3	2698.9
10°	2682.8	2682.8	2679.6	2663.5	2660.2
12.5°	2631.2	2628.0	2615.1	2592.6	2586.2
15°	2560.4	2560.4	2534.6	2508.9	2499.2
17.5°	2483.1	2479.9	2447.7	2421.9	2409.0
20°	2399.4	2392.9	2360.7	2318.8	2296.3
22.5°	2306.0	2306.0	2267.3	2212.6	2190.0
25°	2219.0	2206.1	2170.7	2093.4	2035.4
27.5°	2119.2	2099.8	2061.2	1951.7	1884.1
30°	2009.7	2000.0	1945.3	1803.5	1752.0
32.5°	1906.6	1890.5	1832.5	1684.4	1642.5
35°	1800.3	1787.4	1700.5	1571.7	1533.0
37.5°	1694.0	1677.9	1568.4	1465.4	1417.1
40°	1587.8	1568.4	1449.3	1355.9	1304.4
42.5°	1487.9	1462.2	1346.2	1246.4	1188.4
45°	1381.6	1352.7	1236.7	1133.7	1088.6
47.5°	1275.4	1249.6	1143.3	1037.0	985.5
50°	1162.6	1140.1	1043.5	937.2	882.4
52.5°	1069.2	1033.8	940.4	834.1	789.1
55°	959.7	930.8	843.8	744.0	705.3
57.5°	859.9	830.9	750.4	657.0	624.8
60°	766.5	724.6	657.0	576.5	550.7
62.5°	663.4	631.2	573.3	505.6	537.8
65°	570.0	537.8	486.3	496.0	412.2
67.5°	467.0	450.9	405.8	360.7	347.8
70°	380.0	360.7	344.6	296.3	283.4
72.5°	302.7	283.4	260.9	235.1	225.4
75°	228.7	212.6	199.7	190.0	209.3
77.5°	157.8	151.4	141.7	132.0	128.8
80°	103.1	99.8	96.6	93.4	90.2
82.5°	61.2	61.2	61.2	61.2	61.2
85°	32.2	35.4	38.6	41.9	45.1
87.5°	19.3	19.3	22.5	25.8	29.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)