

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: P561860

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-81-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561860
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-LD4-2STD-50-UNV-81-86-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5465.0 lumens
Efficiency: N/A
Efficacy: 82.1 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

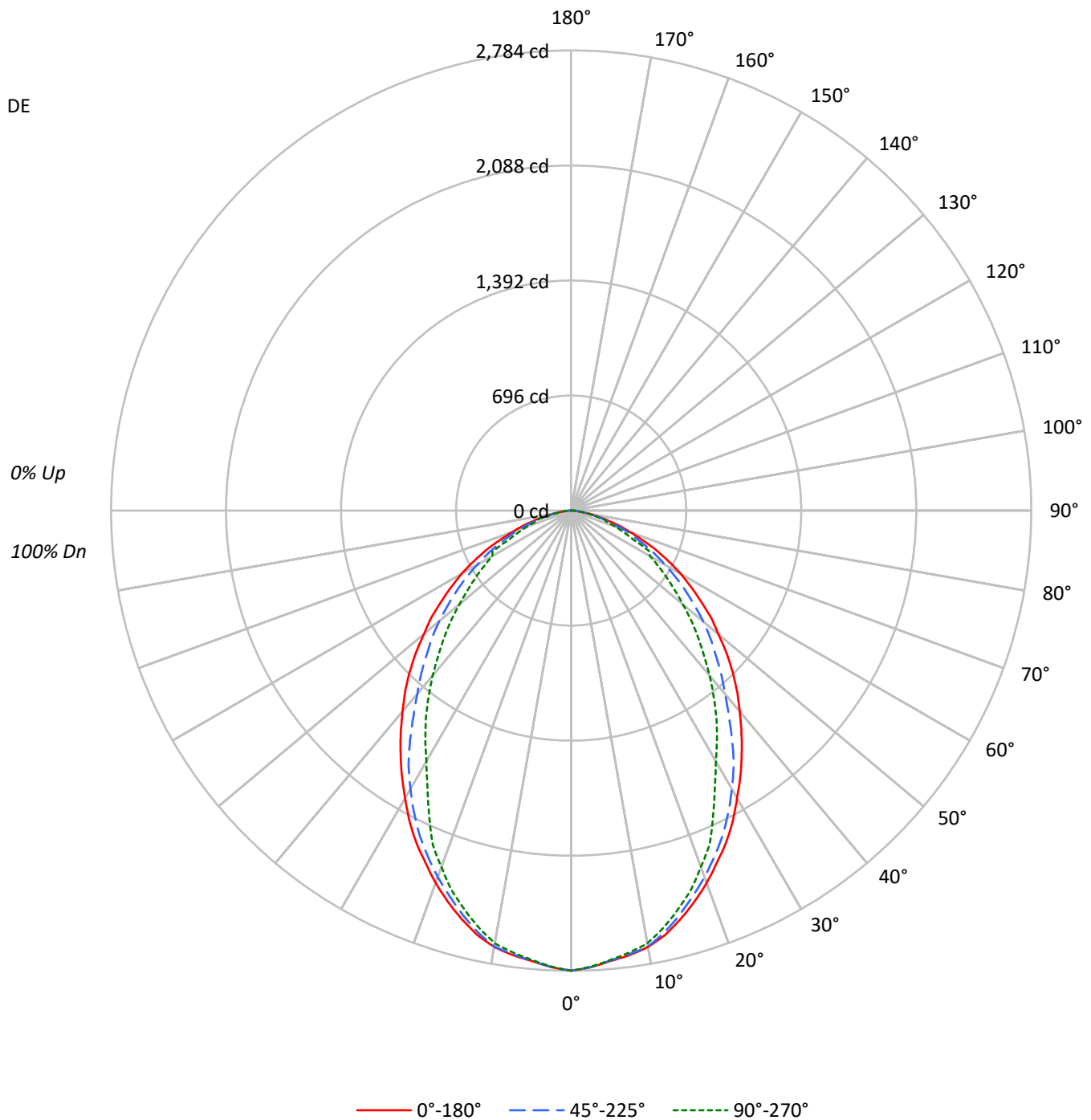
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P561860

CATALOG NUMBER: FSR-12-4-LD4-2STD-50-UNV-81-86-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P561860

CATALOG NUMBER: FSR-12-4-LD4-2STD-50-UNV-81-86-EDD-90

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°	7491	7491	7491
5°	7389	7381	7372
10°	7325	7317	7264
15°	7128	7056	6958
20°	6866	6755	6571
25°	6584	6440	6039
30°	6240	6040	5440
35°	5910	5582	5032
40°	5573	5087	4579
45°	5254	4703	4140
50°	4864	4365	3692
55°	4499	3956	3307
60°	4122	3533	2962
65°	3627	3095	2623
70°	2988	2710	2228
75°	2376	2074	2175
80°	1596	1495	1396
85°	994	1192	1392

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5254 cd/sqm



TEST NUMBER: P561860

CATALOG NUMBER: FSR-12-4-LD4-2STD-50-UNV-81-86-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	259.1	4.7
10°-20°	711.2	13.0
20°-30°	984.6	18.0
30°-40°	1049.8	19.2
40°-50°	957.8	17.5
50°-60°	750.3	13.7
60°-70°	489.0	8.9
70°-80°	216.7	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°	1954.9	35.8
0°-40°	3004.7	55.0
0°-60°	4712.8	86.2
0°-90°	5465.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5465.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2784	2784	2784	2784	2784	
5°	2736	2732	2732	2729	2729	260
15°	2558	2558	2533	2507	2497	719
25°	2217	2204	2169	2092	2034	1018
35°	1799	1786	1699	1570	1532	1125
45°	1381	1352	1236	1133	1088	1063
55°	959	930	843	743	705	860
65°	570	538	486	496	412	561
75°	228	212	200	190	209	245
85°	32	35	39	42	45	45
90°	0	0	0	0	0	



TEST NUMBER: P561860

CATALOG NUMBER: FSR-12-4-LD4-2STD-50-UNV-81-86-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2783.8	2783.8	2783.8	2783.8	2783.8
2.5°	2764.5	2764.5	2764.5	2761.3	2761.3
5°	2735.5	2732.3	2732.3	2729.1	2729.1
7.5°	2713.0	2709.8	2706.6	2703.3	2696.9
10°	2680.8	2680.8	2677.6	2661.5	2658.3
12.5°	2629.3	2626.1	2613.2	2590.7	2584.3
15°	2558.5	2558.5	2532.8	2507.0	2497.4
17.5°	2481.3	2478.1	2445.9	2420.1	2407.3
20°	2397.6	2391.2	2359.0	2317.1	2294.6
22.5°	2304.3	2304.3	2265.7	2210.9	2188.4
25°	2217.4	2204.5	2169.1	2091.9	2033.9
27.5°	2117.6	2098.3	2059.7	1950.3	1882.7
30°	2008.2	1998.5	1943.8	1802.2	1750.7
32.5°	1905.2	1889.1	1831.2	1683.2	1641.3
35°	1799.0	1786.1	1699.2	1570.5	1531.9
37.5°	1692.8	1676.7	1567.3	1464.3	1416.0
40°	1586.6	1567.3	1448.2	1354.9	1303.4
42.5°	1486.8	1461.1	1345.2	1245.5	1187.5
45°	1380.6	1351.7	1235.8	1132.8	1087.8
47.5°	1274.4	1248.7	1142.5	1036.3	984.8
50°	1161.8	1139.3	1042.7	936.5	881.8
52.5°	1068.5	1033.1	939.7	833.5	788.5
55°	959.0	930.1	843.2	743.4	704.8
57.5°	859.3	830.3	749.9	656.5	624.3
60°	765.9	724.1	656.5	576.1	550.3
62.5°	663.0	630.8	572.9	505.3	537.5
65°	569.6	537.5	486.0	495.6	411.9
67.5°	466.6	450.6	405.5	360.4	347.6
70°	379.8	360.4	344.4	296.1	283.2
72.5°	302.5	283.2	260.7	234.9	225.3
75°	228.5	212.4	199.5	189.9	209.2
77.5°	157.7	151.3	141.6	131.9	128.7
80°	103.0	99.8	96.5	93.3	90.1
82.5°	61.1	61.1	61.1	61.1	61.1
85°	32.2	35.4	38.6	41.8	45.1
87.5°	19.3	19.3	22.5	25.7	29.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)