

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: P561728

Luminaire Tested: FSR-12-4-LD4-2STD-35-UNV-81-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561728
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-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5280.0 lumens
Efficiency: N/A
Efficacy: 79.3 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

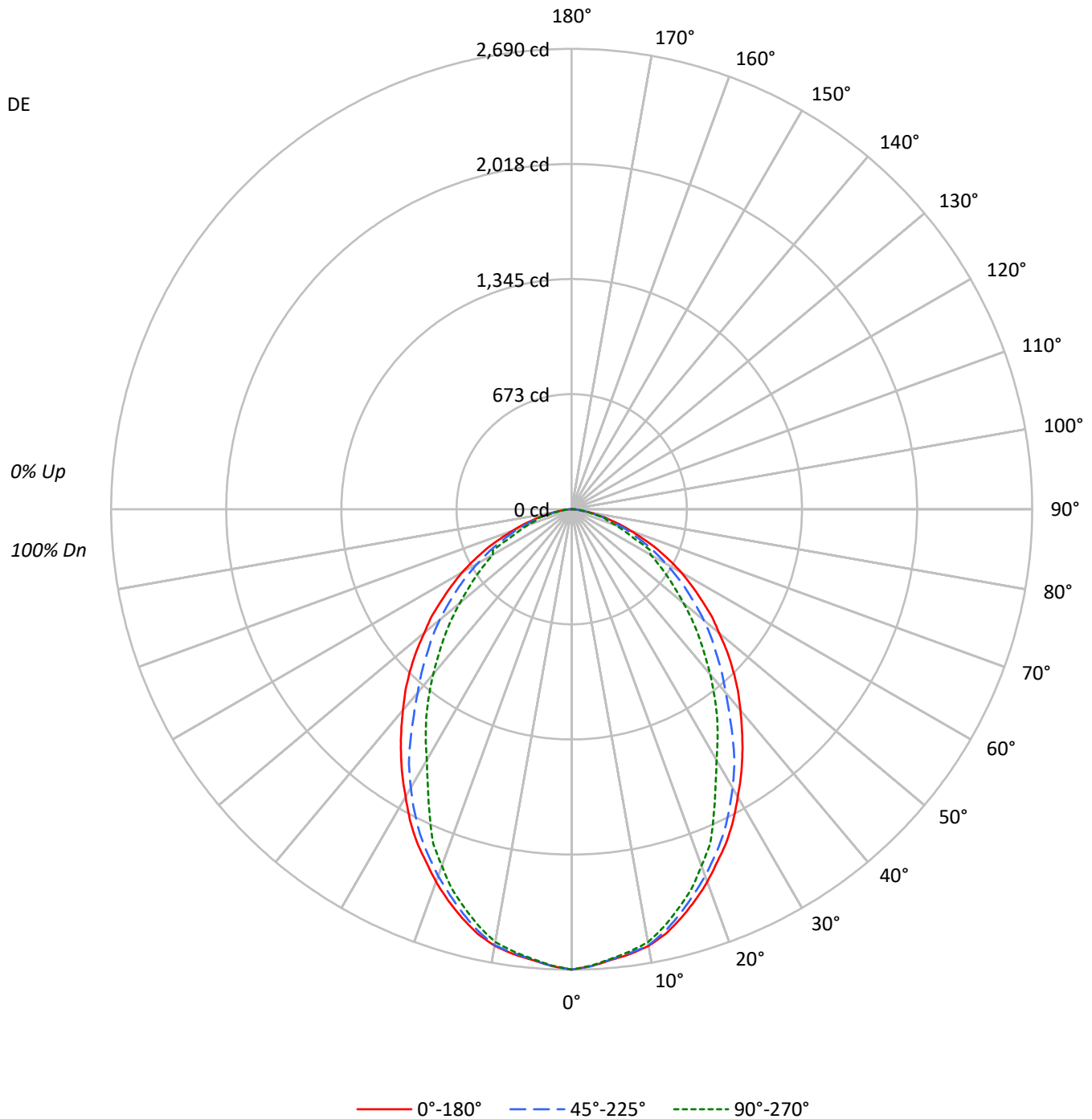
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7238	7238	7238
5°	7139	7131	7122
10°	7077	7069	7018
15°	6886	6817	6722
20°	6633	6527	6348
25°	6361	6222	5835
30°	6029	5835	5256
35°	5710	5393	4862
40°	5385	4915	4424
45°	5076	4544	4000
50°	4699	4217	3567
55°	4347	3822	3194
60°	3983	3414	2862
65°	3504	2989	2534
70°	2887	2618	2153
75°	2296	2005	2101
80°	1542	1446	1350
85°	960	1152	1343

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5076 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	250.4	4.7
10°-20°	687.1	13.0
20°-30°	951.2	18.0
30°-40°	1014.3	19.2
40°-50°	925.3	17.5
50°-60°	724.9	13.7
60°-70°	472.5	8.9
70°-80°	209.3	4.0
80°-90°	45.0	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°	1888.7	35.8
0°-40°	2903.0	55.0
0°-60°	4553.3	86.2
0°-90°	5280.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5280.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2690	2690	2690	2690	2690	
5°	2643	2640	2640	2637	2637	251
15°	2472	2472	2447	2422	2413	695
25°	2142	2130	2096	2021	1965	984
35°	1738	1726	1642	1517	1480	1087
45°	1334	1306	1194	1094	1051	1027
55°	927	899	815	718	681	831
65°	550	519	470	479	398	542
75°	221	205	193	183	202	237
85°	31	34	37	40	44	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2689.6	2689.6	2689.6	2689.6	2689.6
2.5°	2670.9	2670.9	2670.9	2667.8	2667.8
5°	2642.9	2639.8	2639.8	2636.7	2636.7
7.5°	2621.2	2618.0	2614.9	2611.8	2605.6
10°	2590.1	2590.1	2587.0	2571.4	2568.3
12.5°	2540.3	2537.2	2524.8	2503.0	2496.8
15°	2471.9	2471.9	2447.0	2422.2	2412.8
17.5°	2397.3	2394.2	2363.1	2338.2	2325.8
20°	2316.4	2310.2	2279.1	2238.7	2216.9
22.5°	2226.3	2226.3	2189.0	2136.1	2114.3
25°	2142.3	2129.9	2095.7	2021.1	1965.1
27.5°	2045.9	2027.3	1990.0	1884.2	1819.0
30°	1940.2	1930.9	1878.0	1741.2	1691.5
32.5°	1840.7	1825.2	1769.2	1626.2	1585.8
35°	1738.1	1725.7	1641.7	1517.3	1480.0
37.5°	1635.5	1620.0	1514.2	1414.7	1368.1
40°	1532.9	1514.2	1399.2	1309.0	1259.3
42.5°	1436.5	1411.6	1299.7	1203.3	1147.3
45°	1333.9	1305.9	1194.0	1094.5	1051.0
47.5°	1231.3	1206.4	1103.8	1001.2	951.5
50°	1122.5	1100.7	1007.4	904.8	852.0
52.5°	1032.3	998.1	907.9	805.3	761.8
55°	926.6	898.6	814.6	718.3	680.9
57.5°	830.2	802.2	724.5	634.3	603.2
60°	740.0	699.6	634.3	556.6	531.7
62.5°	640.5	609.4	553.5	488.2	519.3
65°	550.3	519.3	469.5	478.8	398.0
67.5°	450.9	435.3	391.8	348.2	335.8
70°	366.9	348.2	332.7	286.1	273.6
72.5°	292.3	273.6	251.9	227.0	217.7
75°	220.8	205.2	192.8	183.4	202.1
77.5°	152.4	146.1	136.8	127.5	124.4
80°	99.5	96.4	93.3	90.2	87.1
82.5°	59.1	59.1	59.1	59.1	59.1
85°	31.1	34.2	37.3	40.4	43.5
87.5°	18.7	18.7	21.8	24.9	28.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)