

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: P561766

Luminaire Tested: FSR-12-4-LD4-2STD-35-UNV-93-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561766
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-93-87-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5222.0 lumens
Efficiency: N/A
Efficacy: 78.4 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

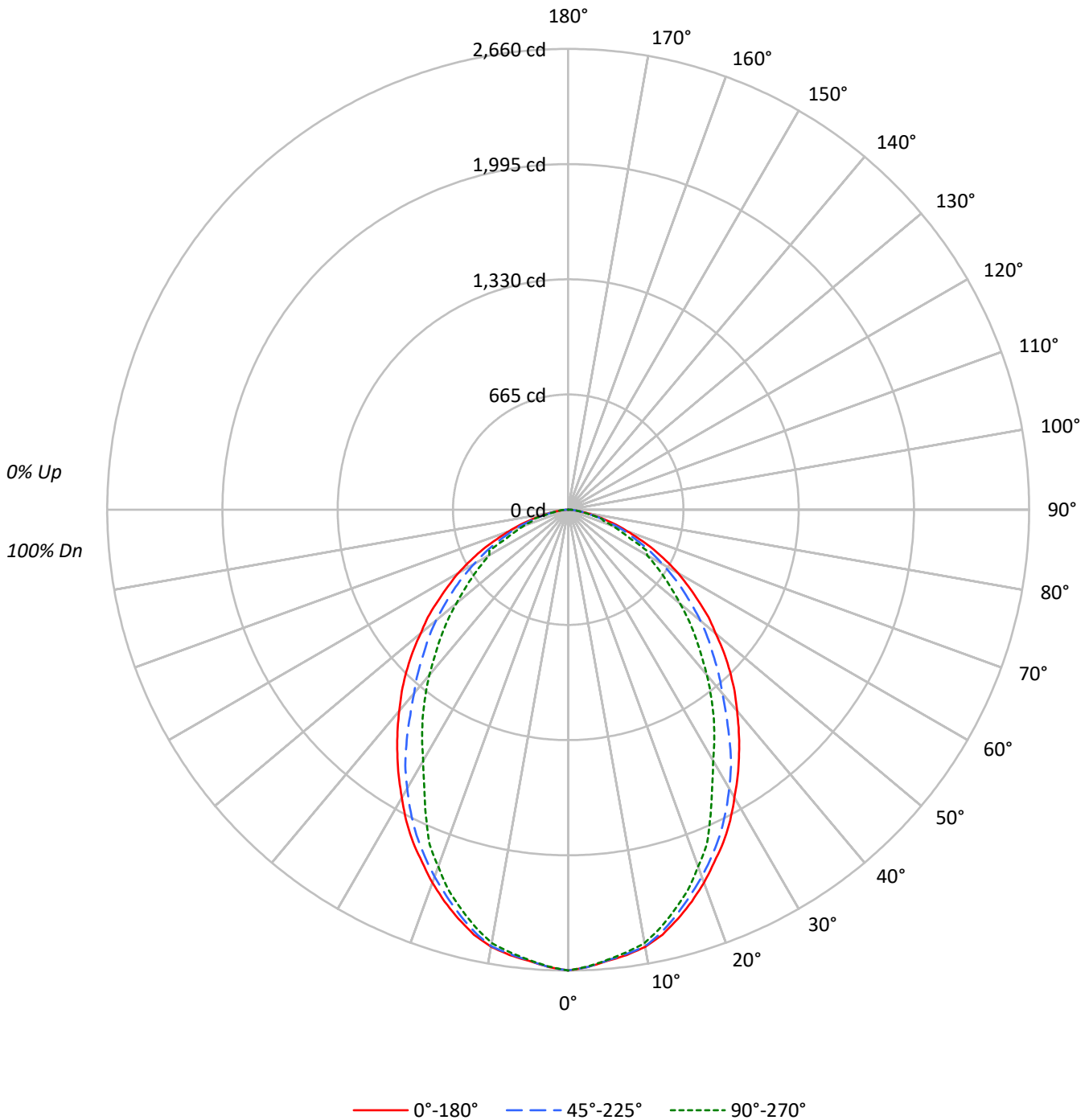
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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												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°	7158	7158	7158
5°	7061	7052	7044
10°	7000	6991	6941
15°	6811	6742	6648
20°	6561	6455	6279
25°	6291	6154	5771
30°	5963	5771	5198
35°	5647	5334	4809
40°	5326	4861	4375
45°	5020	4494	3956
50°	4647	4171	3527
55°	4299	3780	3160
60°	3939	3376	2830
65°	3466	2956	2506
70°	2855	2589	2129
75°	2270	1983	2078
80°	1525	1430	1334
85°	951	1139	1331

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5020 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	247.6	4.7
10°-20°	679.6	13.0
20°-30°	940.8	18.0
30°-40°	1003.2	19.2
40°-50°	915.2	17.5
50°-60°	717.0	13.7
60°-70°	467.3	8.9
70°-80°	207.0	4.0
80°-90°	44.4	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°	1868.0	35.8
0°-40°	2871.1	55.0
0°-60°	4503.3	86.2
0°-90°	5222.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5222.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2660	2660	2660	2660	2660	
5°	2614	2611	2611	2608	2608	248
15°	2445	2445	2420	2396	2386	687
25°	2119	2106	2073	1999	1944	973
35°	1719	1707	1624	1501	1464	1075
45°	1319	1292	1181	1082	1039	1016
55°	916	889	806	710	674	822
65°	544	514	464	474	394	536
75°	218	203	191	181	200	234
85°	31	34	37	40	43	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2660.0	2660.0	2660.0	2660.0	2660.0
2.5°	2641.6	2641.6	2641.6	2638.5	2638.5
5°	2613.9	2610.8	2610.8	2607.7	2607.7
7.5°	2592.4	2589.3	2586.2	2583.1	2577.0
10°	2561.6	2561.6	2558.5	2543.2	2540.1
12.5°	2512.4	2509.3	2497.0	2475.5	2469.4
15°	2444.8	2444.8	2420.2	2395.6	2386.3
17.5°	2371.0	2367.9	2337.1	2312.5	2300.2
20°	2291.0	2284.8	2254.1	2214.1	2192.6
22.5°	2201.8	2201.8	2164.9	2112.6	2091.1
25°	2118.8	2106.5	2072.7	1998.9	1943.5
27.5°	2023.5	2005.0	1968.1	1863.5	1799.0
30°	1918.9	1909.7	1857.4	1722.1	1672.9
32.5°	1820.5	1805.1	1749.8	1608.3	1568.3
35°	1719.0	1706.7	1623.7	1500.7	1463.8
37.5°	1617.5	1602.2	1497.6	1399.2	1353.1
40°	1516.1	1497.6	1383.8	1294.6	1245.4
42.5°	1420.7	1396.1	1285.4	1190.1	1134.7
45°	1319.2	1291.6	1180.9	1082.5	1039.4
47.5°	1217.8	1193.2	1091.7	990.2	941.0
50°	1110.1	1088.6	996.4	894.9	842.6
52.5°	1021.0	987.1	897.9	796.5	753.4
55°	916.4	888.7	805.7	710.4	673.5
57.5°	821.1	793.4	716.5	627.3	596.6
60°	731.9	691.9	627.3	550.5	525.9
62.5°	633.5	602.7	547.4	482.8	513.6
65°	544.3	513.6	464.3	473.6	393.6
67.5°	445.9	430.5	387.5	344.4	332.1
70°	362.9	344.4	329.0	282.9	270.6
72.5°	289.1	270.6	249.1	224.5	215.3
75°	218.3	203.0	190.7	181.4	199.9
77.5°	150.7	144.5	135.3	126.1	123.0
80°	98.4	95.3	92.3	89.2	86.1
82.5°	58.4	58.4	58.4	58.4	58.4
85°	30.8	33.8	36.9	40.0	43.1
87.5°	18.5	18.5	21.5	24.6	27.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)