

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: P561808

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-82-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561808
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-40-UNV-82-84-EDD-90
Description: 1X4 FSR TROFFER WITH .187 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: 5243.0 lumens
Efficiency: N/A
Efficacy: 78.7 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

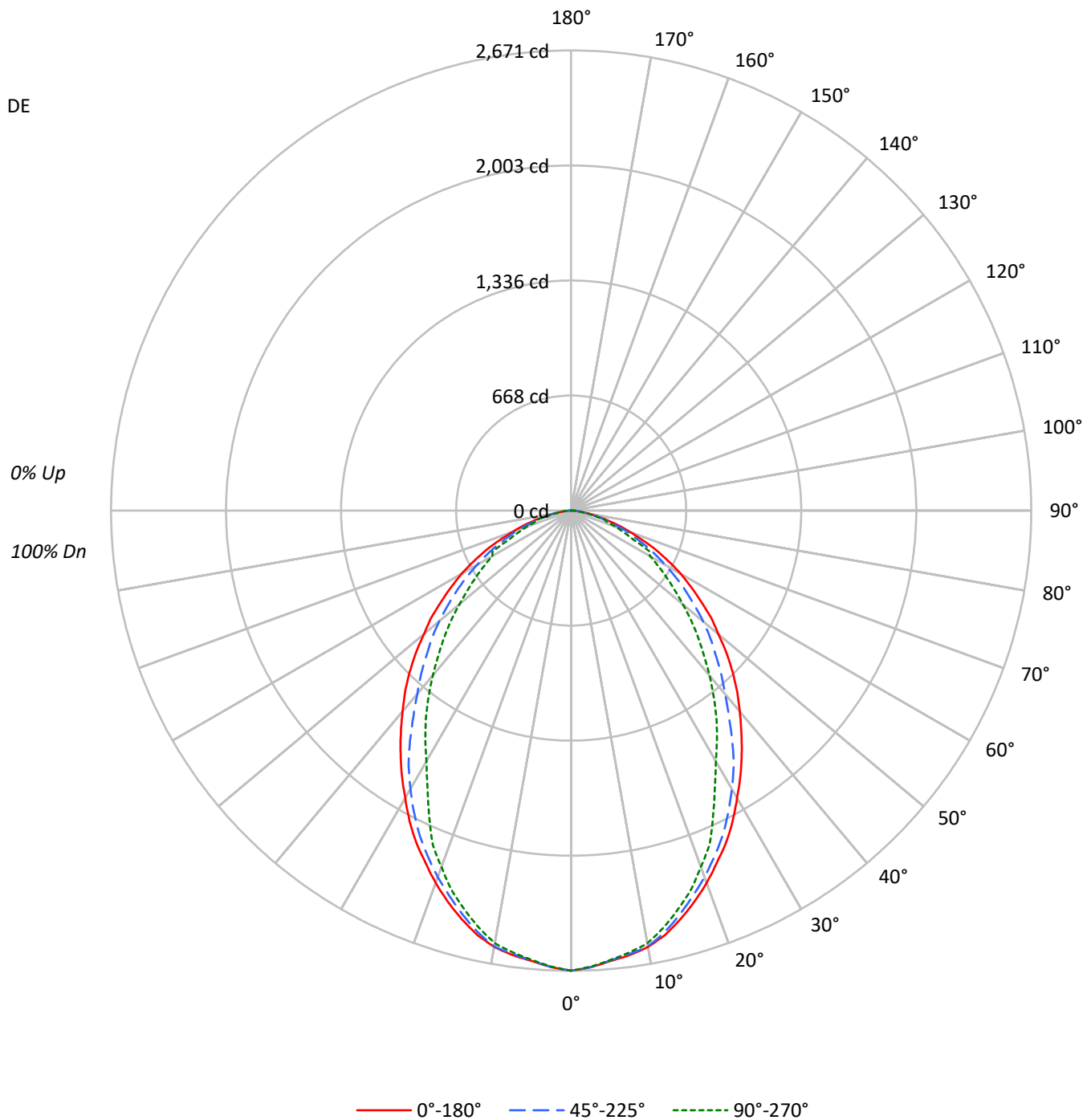
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	7187	7187	7187
5°	7089	7081	7072
10°	7028	7019	6969
15°	6838	6769	6675
20°	6587	6481	6304
25°	6316	6179	5794
30°	5986	5795	5219
35°	5670	5355	4828
40°	5347	4881	4392
45°	5041	4512	3972
50°	4666	4188	3542
55°	4317	3795	3172
60°	3955	3390	2842
65°	3480	2968	2516
70°	2866	2600	2138
75°	2279	1990	2087
80°	1531	1435	1340
85°	954	1145	1334

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5041 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	248.6	4.7
10°-20°	682.3	13.0
20°-30°	944.6	18.0
30°-40°	1007.2	19.2
40°-50°	918.9	17.5
50°-60°	719.9	13.7
60°-70°	469.2	8.9
70°-80°	207.9	4.0
80°-90°	44.6	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°	1875.5	35.8
0°-40°	2882.7	55.0
0°-60°	4521.4	86.2
0°-90°	5243.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5243.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2671	2671	2671	2671	2671	
5°	2624	2621	2621	2618	2618	249
15°	2455	2455	2430	2405	2396	690
25°	2127	2115	2081	2007	1951	977
35°	1726	1714	1630	1507	1470	1079
45°	1325	1297	1186	1087	1044	1020
55°	920	892	809	713	676	825
65°	546	516	466	476	395	539
75°	219	204	191	182	201	235
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°	2670.7	2670.7	2670.7	2670.7	2670.7
2.5°	2652.2	2652.2	2652.2	2649.1	2649.1
5°	2624.4	2621.3	2621.3	2618.2	2618.2
7.5°	2602.8	2599.7	2596.6	2593.5	2587.4
10°	2571.9	2571.9	2568.8	2553.4	2550.3
12.5°	2522.5	2519.4	2507.1	2485.5	2479.3
15°	2454.6	2454.6	2429.9	2405.2	2395.9
17.5°	2380.5	2377.4	2346.5	2321.8	2309.5
20°	2300.2	2294.0	2263.2	2223.0	2201.4
22.5°	2210.7	2210.7	2173.6	2121.1	2099.5
25°	2127.3	2115.0	2081.0	2006.9	1951.3
27.5°	2031.6	2013.1	1976.0	1871.0	1806.2
30°	1926.6	1917.4	1864.9	1729.0	1679.6
32.5°	1827.8	1812.4	1756.8	1614.8	1574.6
35°	1725.9	1713.6	1630.2	1506.7	1469.7
37.5°	1624.0	1608.6	1503.6	1404.8	1358.5
40°	1522.2	1503.6	1389.4	1299.9	1250.4
42.5°	1426.4	1401.7	1290.6	1194.9	1139.3
45°	1324.6	1296.8	1185.6	1086.8	1043.6
47.5°	1222.7	1198.0	1096.1	994.2	944.8
50°	1114.6	1093.0	1000.4	898.5	846.0
52.5°	1025.1	991.1	901.6	799.7	756.4
55°	920.1	892.3	808.9	713.2	676.2
57.5°	824.4	796.6	719.4	629.9	599.0
60°	734.8	694.7	629.9	552.7	528.0
62.5°	636.0	605.2	549.6	484.7	515.6
65°	546.5	515.6	466.2	475.5	395.2
67.5°	447.7	432.3	389.0	345.8	333.5
70°	364.3	345.8	330.4	284.1	271.7
72.5°	290.2	271.7	250.1	225.4	216.1
75°	219.2	203.8	191.4	182.2	200.7
77.5°	151.3	145.1	135.9	126.6	123.5
80°	98.8	95.7	92.6	89.5	86.5
82.5°	58.7	58.7	58.7	58.7	58.7
85°	30.9	34.0	37.1	40.1	43.2
87.5°	18.5	18.5	21.6	24.7	27.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)