

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: P561748

Luminaire Tested: FSR-12-4-LD4-2STD-35-UNV-82-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561748
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-82-86-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5009.0 lumens
Efficiency: N/A
Efficacy: 75.2 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

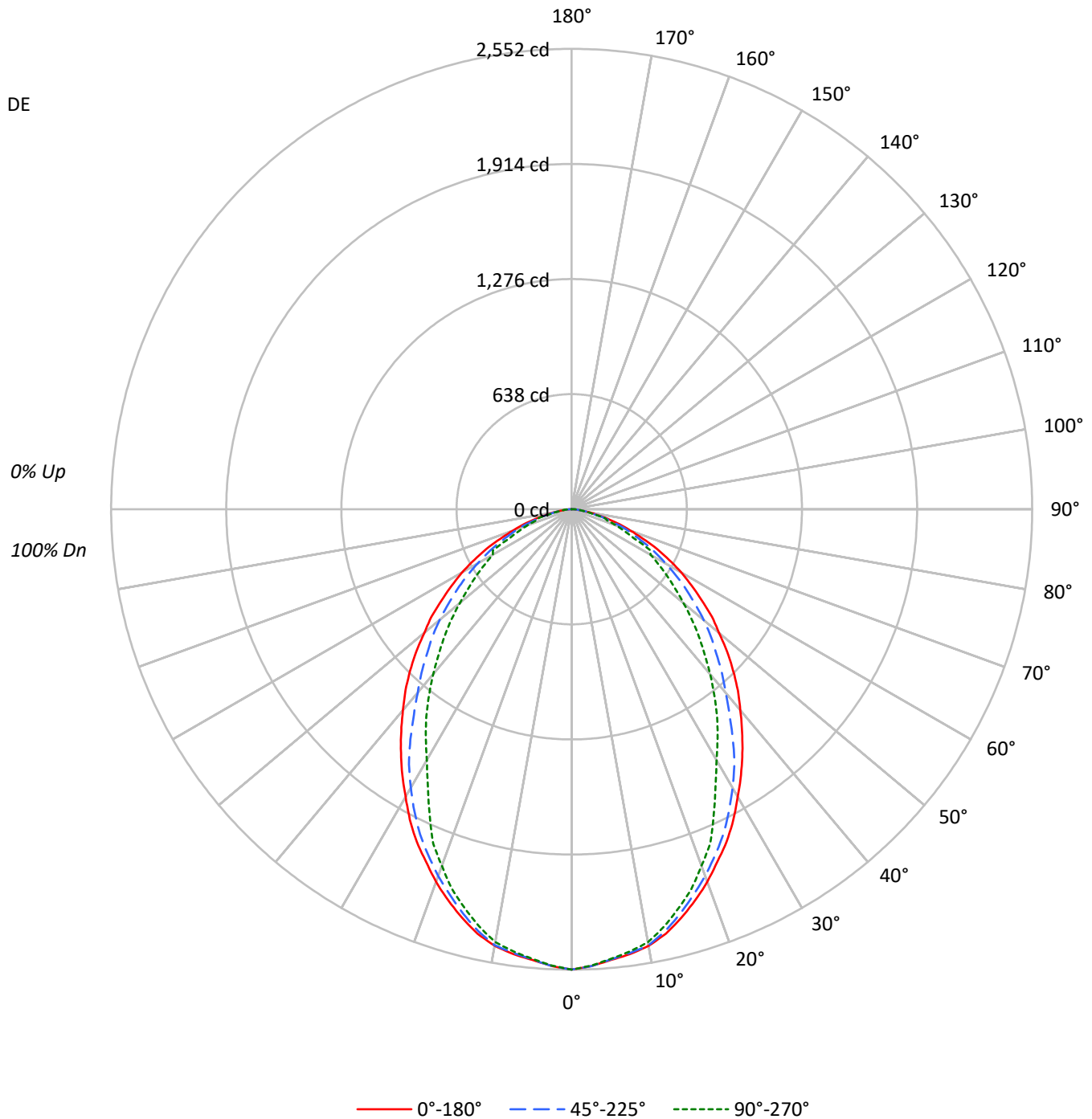
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6866	6866	6866
5°	6773	6765	6757
10°	6714	6706	6658
15°	6533	6467	6377
20°	6293	6192	6023
25°	6035	5903	5535
30°	5719	5536	4986
35°	5417	5117	4613
40°	5108	4663	4196
45°	4816	4311	3794
50°	4458	4001	3383
55°	4124	3626	3031
60°	3778	3238	2715
65°	3324	2836	2404
70°	2739	2483	2043
75°	2177	1902	1993
80°	1463	1371	1280
85°	911	1093	1275

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4816 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	237.5	4.7
10°-20°	651.8	13.0
20°-30°	902.4	18.0
30°-40°	962.2	19.2
40°-50°	877.8	17.5
50°-60°	687.7	13.7
60°-70°	448.2	8.9
70°-80°	198.6	4.0
80°-90°	42.6	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°	1791.8	35.8
0°-40°	2754.0	55.0
0°-60°	4319.6	86.2
0°-90°	5009.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5009.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2552	2552	2552	2552	2552	
5°	2507	2504	2504	2501	2501	238
15°	2345	2345	2321	2298	2289	659
25°	2032	2021	1988	1917	1864	933
35°	1649	1637	1558	1440	1404	1031
45°	1265	1239	1133	1038	997	975
55°	879	852	773	681	646	788
65°	522	493	445	454	378	515
75°	209	195	183	174	192	224
85°	30	32	35	38	41	41
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2551.5	2551.5	2551.5	2551.5	2551.5
2.5°	2533.8	2533.8	2533.8	2530.9	2530.9
5°	2507.3	2504.3	2504.3	2501.4	2501.4
7.5°	2486.6	2483.7	2480.7	2477.8	2471.9
10°	2457.1	2457.1	2454.2	2439.4	2436.5
12.5°	2409.9	2407.0	2395.2	2374.5	2368.6
15°	2345.0	2345.0	2321.4	2297.8	2289.0
17.5°	2274.2	2271.3	2241.8	2218.2	2206.4
20°	2197.5	2191.7	2162.2	2123.8	2103.2
22.5°	2112.0	2112.0	2076.6	2026.5	2005.8
25°	2032.4	2020.6	1988.1	1917.3	1864.2
27.5°	1940.9	1923.2	1887.8	1787.5	1725.6
30°	1840.6	1831.8	1781.6	1651.8	1604.7
32.5°	1746.2	1731.5	1678.4	1542.7	1504.4
35°	1648.9	1637.1	1557.5	1439.5	1404.1
37.5°	1551.6	1536.8	1436.5	1342.1	1297.9
40°	1454.2	1436.5	1327.4	1241.8	1194.6
42.5°	1362.8	1339.2	1233.0	1141.5	1088.5
45°	1265.4	1238.9	1132.7	1038.3	997.0
47.5°	1168.1	1144.5	1047.2	949.8	902.6
50°	1064.9	1044.2	955.7	858.4	808.2
52.5°	979.3	946.9	861.3	764.0	722.7
55°	879.0	852.5	772.8	681.4	646.0
57.5°	787.6	761.0	687.3	601.7	572.2
60°	702.0	663.7	601.7	528.0	504.4
62.5°	607.6	578.1	525.1	463.1	492.6
65°	522.1	492.6	445.4	454.3	377.6
67.5°	427.7	413.0	371.7	330.4	318.6
70°	348.1	330.4	315.6	271.4	259.6
72.5°	277.3	259.6	238.9	215.3	206.5
75°	209.4	194.7	182.9	174.0	191.7
77.5°	144.5	138.6	129.8	120.9	118.0
80°	94.4	91.4	88.5	85.5	82.6
82.5°	56.0	56.0	56.0	56.0	56.0
85°	29.5	32.4	35.4	38.3	41.3
87.5°	17.7	17.7	20.6	23.6	26.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)