

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: P561734

Luminaire Tested: FSR-12-4-LD4-2STD-35-UNV-81-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561734
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-81-87-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4951.0 lumens
Efficiency: N/A
Efficacy: 74.3 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

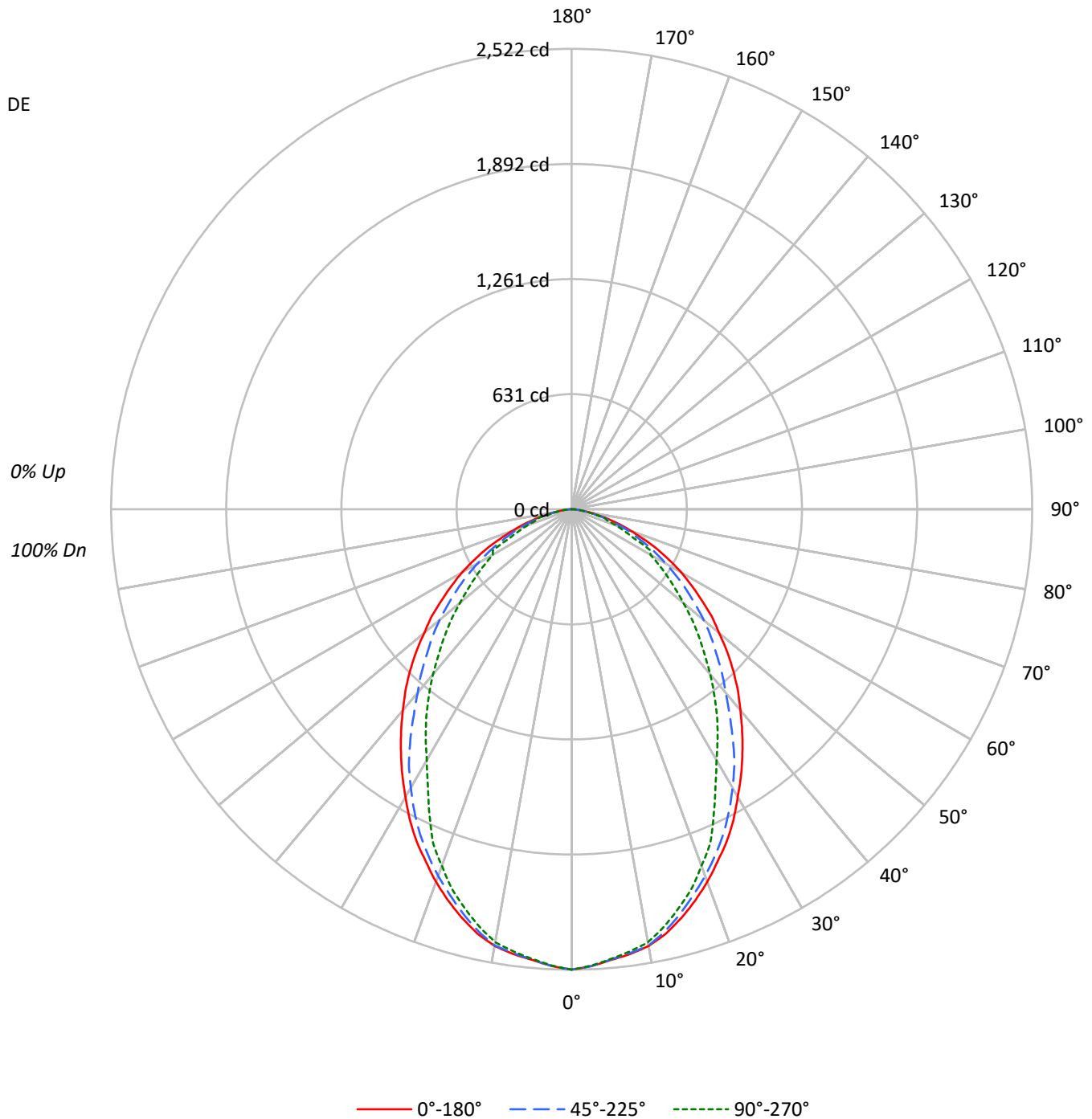
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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												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°	6787	6787	6787
5°	6694	6686	6679
10°	6636	6628	6581
15°	6457	6393	6303
20°	6220	6120	5953
25°	5964	5835	5471
30°	5653	5472	4928
35°	5354	5057	4559
40°	5049	4609	4148
45°	4760	4261	3750
50°	4406	3954	3345
55°	4076	3584	2996
60°	3735	3201	2683
65°	3286	2804	2376
70°	2707	2455	2019
75°	2152	1880	1970
80°	1446	1356	1265
85°	902	1081	1260

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4760 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	234.8	4.7
10°-20°	644.3	13.0
20°-30°	892.0	18.0
30°-40°	951.1	19.2
40°-50°	867.7	17.5
50°-60°	679.7	13.7
60°-70°	443.0	8.9
70°-80°	196.3	4.0
80°-90°	42.1	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°	1771.0	35.8
0°-40°	2722.1	55.0
0°-60°	4269.5	86.2
0°-90°	4951.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4951.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2522	2522	2522	2522	2522	
5°	2478	2475	2475	2472	2472	235
15°	2318	2318	2295	2271	2262	652
25°	2009	1997	1965	1895	1843	922
35°	1630	1618	1539	1423	1388	1019
45°	1251	1224	1120	1026	986	963
55°	869	843	764	674	638	779
65°	516	487	440	449	373	509
75°	207	192	181	172	190	222
85°	29	32	35	38	41	40
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2522.0	2522.0	2522.0	2522.0	2522.0
2.5°	2504.5	2504.5	2504.5	2501.6	2501.6
5°	2478.2	2475.3	2475.3	2472.4	2472.4
7.5°	2457.8	2454.9	2452.0	2449.1	2443.3
10°	2428.7	2428.7	2425.8	2411.2	2408.3
12.5°	2382.0	2379.1	2367.4	2347.0	2341.2
15°	2317.9	2317.9	2294.6	2271.2	2262.5
17.5°	2247.9	2245.0	2215.8	2192.5	2180.9
20°	2172.1	2166.3	2137.1	2099.2	2078.8
22.5°	2087.6	2087.6	2052.6	2003.0	1982.6
25°	2008.8	1997.2	1965.1	1895.1	1842.6
27.5°	1918.4	1901.0	1866.0	1766.8	1705.6
30°	1819.3	1810.6	1761.0	1632.7	1586.1
32.5°	1726.0	1711.4	1659.0	1524.8	1486.9
35°	1629.8	1618.1	1539.4	1422.8	1387.8
37.5°	1533.6	1519.0	1419.9	1326.6	1282.9
40°	1437.4	1419.9	1312.0	1227.5	1180.8
42.5°	1347.0	1323.7	1218.7	1128.3	1075.8
45°	1250.8	1224.5	1119.6	1026.3	985.5
47.5°	1154.6	1131.2	1035.0	938.8	892.2
50°	1052.5	1032.1	944.6	848.4	798.9
52.5°	968.0	935.9	851.3	755.1	714.3
55°	868.8	842.6	763.9	673.5	638.5
57.5°	778.5	752.2	679.3	594.8	565.6
60°	693.9	656.0	594.8	521.9	498.6
62.5°	600.6	571.5	519.0	457.7	486.9
65°	516.1	486.9	440.3	449.0	373.2
67.5°	422.8	408.2	367.4	326.5	314.9
70°	344.0	326.5	312.0	268.2	256.6
72.5°	274.1	256.6	236.2	212.8	204.1
75°	207.0	192.4	180.8	172.0	189.5
77.5°	142.9	137.0	128.3	119.5	116.6
80°	93.3	90.4	87.5	84.6	81.6
82.5°	55.4	55.4	55.4	55.4	55.4
85°	29.2	32.1	35.0	37.9	40.8
87.5°	17.5	17.5	20.4	23.3	26.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)