

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: P561544

Luminaire Tested: FSR-12-4-LD4-2LO-35-UNV-81-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561544
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-LD4-2LO-35-UNV-81-88-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3329.0 lumens
Efficiency: N/A
Efficacy: 71.1 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

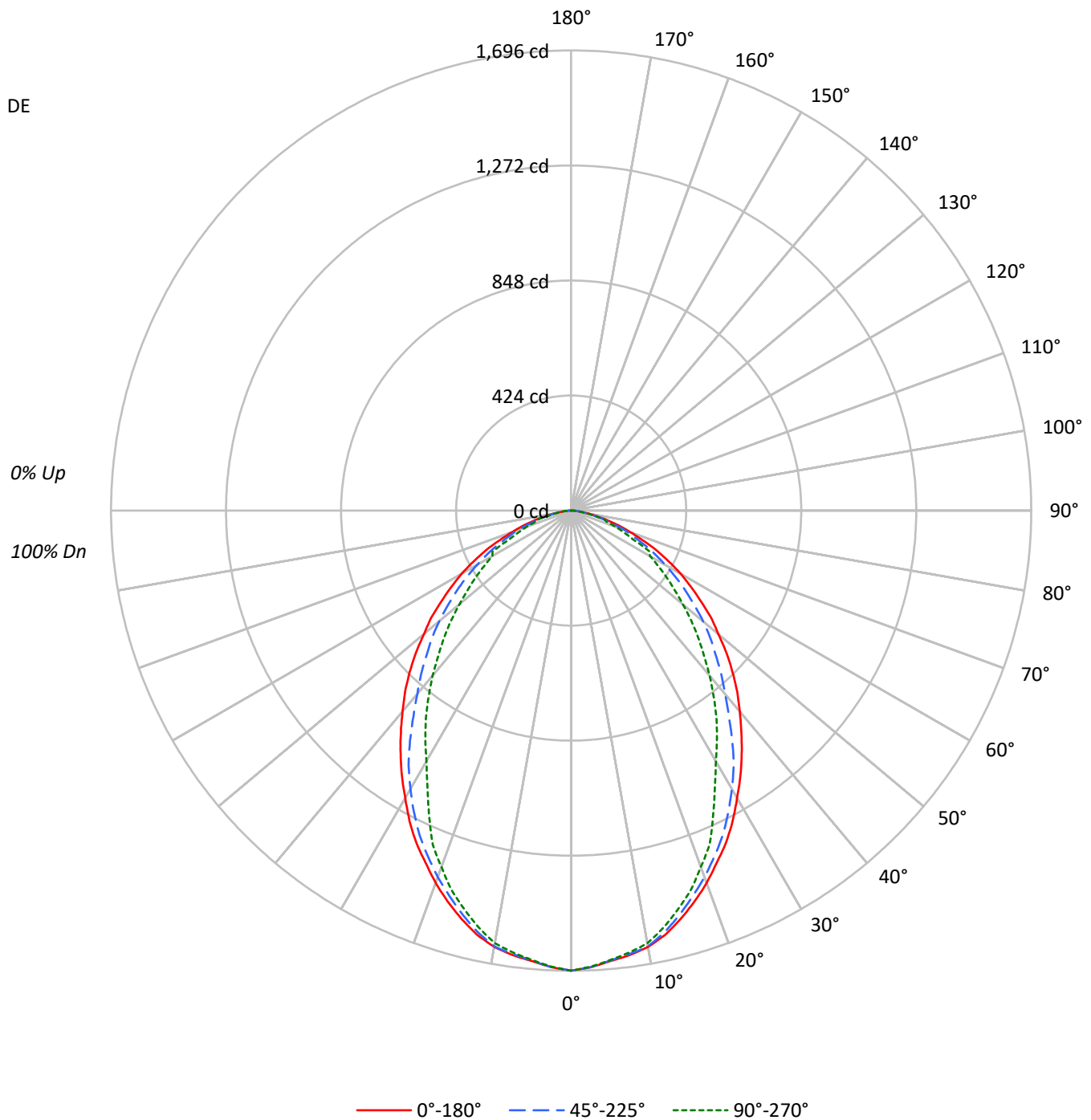
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4563	4563	4563
5°	4501	4496	4491
10°	4462	4457	4425
15°	4342	4298	4238
20°	4182	4115	4003
25°	4010	3923	3679
30°	3801	3679	3314
35°	3600	3400	3066
40°	3395	3099	2789
45°	3201	2865	2522
50°	2963	2659	2249
55°	2741	2410	2014
60°	2511	2152	1804
65°	2209	1885	1598
70°	1820	1651	1357
75°	1447	1263	1325
80°	972	911	851
85°	605	726	846

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3201 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.9	4.7
10°-20°	433.2	13.0
20°-30°	599.8	18.0
30°-40°	639.5	19.2
40°-50°	583.4	17.5
50°-60°	457.1	13.7
60°-70°	297.9	8.9
70°-80°	132.0	4.0
80°-90°	28.3	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°	1190.8	35.8
0°-40°	1830.3	55.0
0°-60°	2870.8	86.2
0°-90°	3329.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3329.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1696	1696	1696	1696	1696	
5°	1666	1664	1664	1662	1662	158
15°	1558	1558	1543	1527	1521	438
25°	1351	1343	1321	1274	1239	620
35°	1096	1088	1035	957	933	685
45°	841	823	753	690	663	648
55°	584	567	514	453	429	524
65°	347	327	296	302	251	342
75°	139	129	122	116	127	149
85°	20	22	24	26	27	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1695.7	1695.7	1695.7	1695.7	1695.7
2.5°	1684.0	1684.0	1684.0	1682.0	1682.0
5°	1666.3	1664.4	1664.4	1662.4	1662.4
7.5°	1652.6	1650.7	1648.7	1646.7	1642.8
10°	1633.0	1633.0	1631.1	1621.3	1619.3
12.5°	1601.6	1599.7	1591.8	1578.1	1574.2
15°	1558.5	1558.5	1542.8	1527.2	1521.3
17.5°	1511.5	1509.5	1489.9	1474.2	1466.4
20°	1460.5	1456.6	1437.0	1411.5	1397.8
22.5°	1403.6	1403.6	1380.1	1346.8	1333.1
25°	1350.7	1342.9	1321.3	1274.3	1239.0
27.5°	1289.9	1278.2	1254.7	1188.0	1146.8
30°	1223.3	1217.4	1184.1	1097.8	1066.5
32.5°	1160.6	1150.8	1115.5	1025.3	999.8
35°	1095.9	1088.0	1035.1	956.7	933.2
37.5°	1031.2	1021.4	954.7	892.0	862.6
40°	966.5	954.7	882.2	825.3	794.0
42.5°	905.7	890.0	819.4	758.7	723.4
45°	841.0	823.4	752.8	690.1	662.6
47.5°	776.3	760.6	695.9	631.2	599.9
50°	707.7	694.0	635.2	570.5	537.2
52.5°	650.9	629.3	572.4	507.7	480.3
55°	584.2	566.6	513.6	452.9	429.3
57.5°	523.4	505.8	456.8	399.9	380.3
60°	466.6	441.1	399.9	350.9	335.2
62.5°	403.8	384.2	349.0	307.8	327.4
65°	347.0	327.4	296.0	301.9	250.9
67.5°	284.3	274.5	247.0	219.6	211.7
70°	231.3	219.6	209.8	180.4	172.5
72.5°	184.3	172.5	158.8	143.1	137.2
75°	139.2	129.4	121.5	115.7	127.4
77.5°	96.1	92.1	86.3	80.4	78.4
80°	62.7	60.8	58.8	56.9	54.9
82.5°	37.2	37.2	37.2	37.2	37.2
85°	19.6	21.6	23.5	25.5	27.4
87.5°	11.8	11.8	13.7	15.7	17.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)