

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: io LED

Report Number: P274360

Luminaire Tested: **LD4B20DE010W2N2050 EU4B1020W2N902050 4LBSQ0LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P274360
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35088)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B20DE010W2N2050 EU4B1020W2N902050 4LBSQ0LI
Description: PORTFOLIO 4" W2N SQ DOWNLIGHT WITH SPECULAR FINISH
Light Source: W2N 2000K-5000K CCT TUNING RANGE
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1475.6 lumens
Efficiency: N/A
Efficacy: 52.7 lumens/watt
Spacing Criteria (0/90/45): 0.91 / 0.9 / 0.94
Luminous Opening: Rectangular (W 0.38' x L: 0.38' x H: 0')
CIE Type: Direct

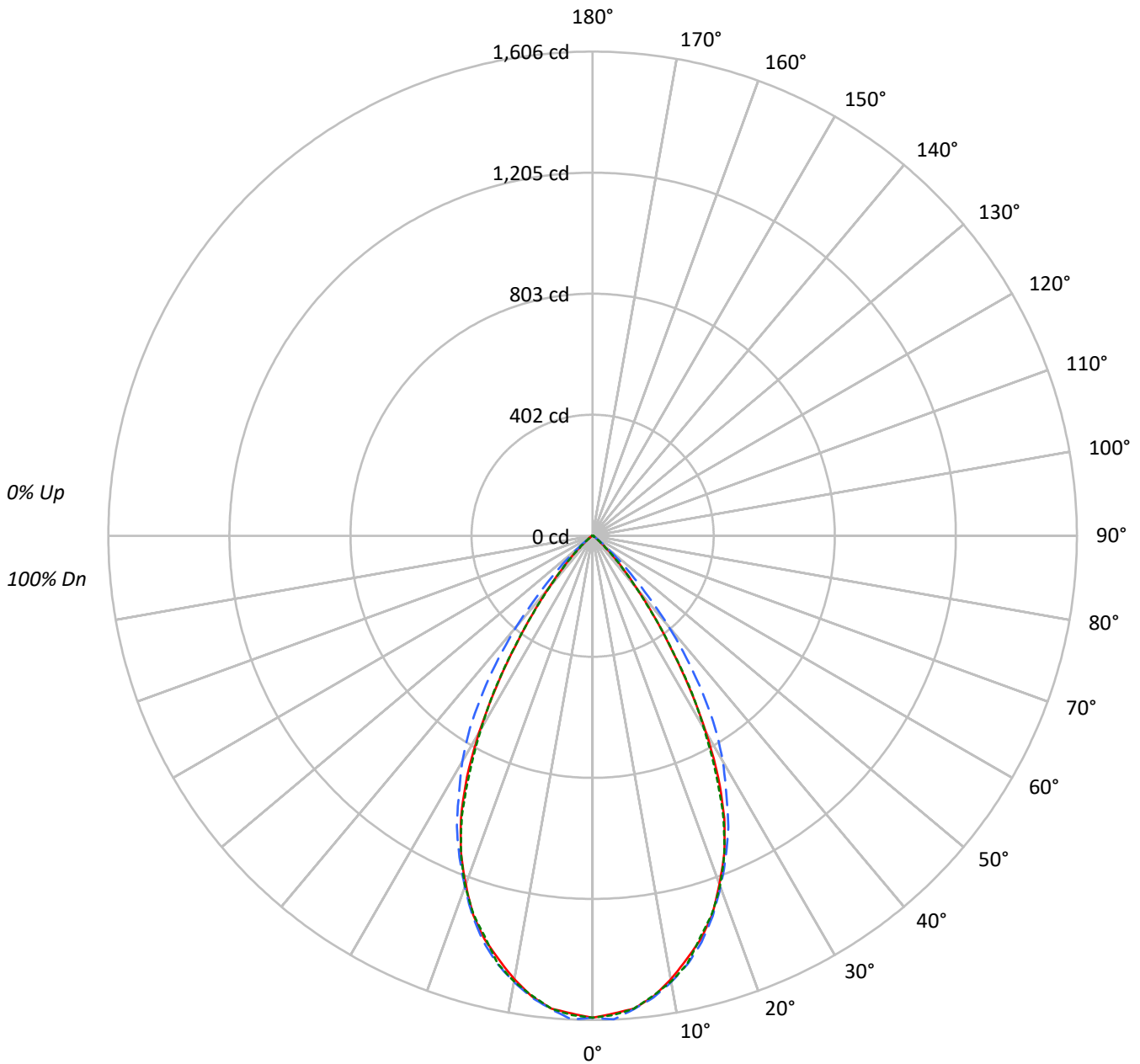
Input Watts (W): 28
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93																			
2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	87																			
3	102	96	91	87	100	94	90	86	92	88	84	89	86	83	87	84	82	80																			
4	97	89	84	79	95	88	83	79	86	81	78	84	80	77	82	79	76	75																			
5	92	83	77	73	90	82	77	73	81	76	72	79	75	71	77	74	71	69																			
6	87	78	72	68	86	77	71	67	76	71	67	74	70	66	73	69	66	65																			
7	83	73	67	63	81	73	67	63	71	66	62	70	65	62	69	65	62	60																			
8	79	69	63	59	77	68	62	58	67	62	58	66	61	58	65	61	58	56																			
9	75	65	59	55	74	64	59	55	63	58	55	63	58	54	62	57	54	53																			
10	71	61	55	51	70	61	55	51	60	55	51	59	54	51	58	54	51	50																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	122347	122347	122347
5°	120940	121093	120940
10°	116104	116812	116656
15°	109760	110569	109198
20°	100174	100916	100663
25°	87226	89963	86618
30°	66324	76294	65343
35°	41750	59308	42133
40°	22522	39169	22122
45°	10662	19344	10554
50°	3989	7252	3989
55°	1895	2309	1762
60°	1240	1087	1240
65°	743	743	743
70°	448	671	448
75°	296	296	296
80°	441	441	441
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.2	10.0
10°-20°	388.4	26.3
20°-30°	474.5	32.2
30°-40°	331.8	22.5
40°-50°	108.7	7.4
50°-60°	17.3	1.2
60°-70°	4.7	0.3
70°-80°	1.5	0.1
80°-90°	0.4	0.0
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°	1011.0	68.5
0°-40°	1342.9	91.0
0°-60°	1468.9	99.5
0°-90°	1475.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1475.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1598	1598	1598	1598	1598	
5°	1574	1574	1576	1566	1574	148
15°	1385	1391	1395	1386	1378	386
25°	1033	1048	1065	1046	1026	464
35°	447	528	635	519	451	285
45°	98	121	179	120	98	83
55°	14	15	17	15	13	14
65°	4	5	4	5	4	4
75°	1	1	1	1	1	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1598.4	1598.4	1598.4	1598.4	1598.4	1598.4	1598.4	1598.4	1598.4	1598.4	1598.4
2.5°	1586.2	1597.4	1594.3	1601.4	1601.4	1593.3	1595.3	1598.4	1602.4	1605.5	1581.1
5°	1574.0	1584.2	1575.0	1585.2	1579.1	1569.9	1585.2	1577.1	1582.1	1576.0	1580.1
7.5°	1541.5	1557.8	1539.5	1551.7	1547.6	1542.5	1548.6	1546.6	1549.6	1544.6	1533.4
10°	1493.8	1507.0	1494.8	1512.1	1503.9	1498.9	1503.9	1509.0	1508.0	1502.9	1509.0
12.5°	1438.9	1454.2	1448.1	1458.2	1449.1	1449.1	1461.3	1458.2	1459.3	1455.2	1462.3
15°	1385.1	1396.3	1387.2	1400.4	1396.3	1385.1	1390.2	1390.2	1398.3	1395.3	1387.2
17.5°	1318.1	1327.2	1317.1	1320.1	1316.1	1314.0	1335.4	1321.2	1329.3	1323.2	1324.2
20°	1229.8	1233.8	1230.8	1238.9	1233.8	1239.9	1237.9	1235.8	1235.8	1238.9	1231.8
22.5°	1140.4	1140.4	1143.4	1145.5	1149.5	1143.4	1155.6	1145.5	1146.5	1153.6	1151.6
25°	1032.8	1029.7	1036.8	1047.0	1051.0	1046.0	1062.2	1054.1	1060.2	1065.2	1054.1
27.5°	901.8	901.8	908.9	926.1	929.2	935.3	957.6	957.6	965.7	958.6	966.7
30°	750.4	761.6	770.8	793.1	800.2	813.4	836.8	847.9	866.2	863.2	859.1
32.5°	595.1	610.3	611.3	634.7	654.0	676.3	707.8	734.2	747.4	756.5	746.4
35°	446.8	456.0	464.1	480.3	512.8	542.3	570.7	605.2	628.6	634.7	625.5
37.5°	327.0	329.0	337.1	352.4	376.7	405.2	439.7	477.3	501.7	510.8	500.6
40°	225.4	227.5	231.5	244.7	265.0	285.4	312.8	351.4	373.7	392.0	378.8
42.5°	151.3	153.3	157.4	167.6	178.7	198.0	219.3	243.7	265.0	273.2	266.1
45°	98.5	98.5	100.5	107.6	113.7	129.0	144.2	159.4	173.6	178.7	173.6
47.5°	57.9	58.9	60.9	66.0	73.1	79.2	90.4	100.5	104.6	108.7	106.6
50°	33.5	33.5	36.6	39.6	44.7	48.7	52.8	56.9	58.9	60.9	58.9
52.5°	18.3	19.3	20.3	21.3	23.4	27.4	30.5	30.5	31.5	32.5	31.5
55°	14.2	14.2	14.2	14.2	15.2	15.2	15.2	16.2	16.2	17.3	16.2
57.5°	10.2	10.2	10.2	11.2	11.2	11.2	10.2	10.2	10.2	10.2	10.2
60°	8.1	8.1	8.1	8.1	8.1	8.1	8.1	7.1	7.1	7.1	7.1
62.5°	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
65°	4.1	4.1	5.1	5.1	5.1	5.1	5.1	4.1	4.1	4.1	4.1
67.5°	3.0	3.0	3.0	3.0	4.1	4.1	3.0	3.0	3.0	3.0	3.0
70°	2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
72.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
75°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
77.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1598.4	1598.4	1598.4	1598.4	1598.4	1598.4	1598.4	1598.4
2.5°	1598.4	1581.1	1583.1	1592.3	1587.2	1592.3	1591.3	1591.3
5°	1581.1	1576.0	1567.9	1564.9	1571.0	1584.2	1582.1	1574.0
7.5°	1548.6	1535.4	1544.6	1548.6	1543.5	1551.7	1555.7	1538.5
10°	1510.0	1505.0	1502.9	1505.0	1502.9	1511.0	1500.9	1500.9
12.5°	1455.2	1447.1	1447.1	1459.3	1452.1	1446.1	1454.2	1453.2
15°	1400.4	1384.1	1384.1	1388.2	1391.2	1387.2	1388.2	1378.0
17.5°	1319.1	1314.0	1306.9	1318.1	1321.2	1317.1	1320.1	1315.1
20°	1243.0	1243.0	1229.8	1234.8	1238.9	1241.9	1244.0	1235.8
22.5°	1145.5	1147.5	1138.4	1148.5	1151.6	1141.4	1143.4	1141.4
25°	1056.1	1055.1	1048.0	1043.9	1046.0	1041.9	1040.9	1025.6
27.5°	957.6	947.5	932.2	936.3	919.0	904.8	904.8	881.4
30°	851.0	833.7	813.4	793.1	777.9	761.6	752.5	739.3
32.5°	726.1	702.7	677.3	649.9	632.6	608.3	595.1	602.2
35°	602.2	567.7	533.1	505.7	479.3	465.1	448.8	450.9
37.5°	482.4	433.6	403.1	373.7	351.4	333.1	326.0	323.9
40°	352.4	313.8	283.3	262.0	246.8	232.5	224.4	221.4
42.5°	243.7	216.3	191.9	174.7	164.5	155.4	151.3	150.3
45°	158.4	142.2	125.9	113.7	105.6	99.5	98.5	97.5
47.5°	99.5	91.4	81.2	72.1	65.0	60.9	57.9	57.9
50°	56.9	53.8	48.7	43.7	39.6	37.6	34.5	33.5
52.5°	30.5	30.5	28.4	24.4	21.3	19.3	19.3	18.3
55°	16.2	16.2	15.2	15.2	14.2	14.2	14.2	13.2
57.5°	10.2	10.2	11.2	11.2	10.2	10.2	10.2	10.2
60°	7.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
62.5°	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
65°	4.1	5.1	5.1	5.1	5.1	4.1	4.1	4.1
67.5°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
70°	3.0	3.0	3.0	3.0	3.0	2.0	2.0	2.0
72.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
75°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
77.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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— 0°-180° - - 45°-225° - - - - 90°-270°









(END OF REPORT)