

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: P209260

Luminaire Tested: **LDSQ4B40D010 EU4B30509035 4LBCSSQ1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209260
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35089)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDSQ4B40D010 EU4B30509035 4LBCSSQ1MMS
Description: PORTFOLIO LD4 SERIES 4" RECESSED FIXTURE WITH A SQUARE SHALLOW CAST METALLIC SILVER TRIM
MEDIUM DISTRIBUTION WITH MATTE METALLIC SILVER TRIM
WATTAGE D010TR-43.02 W DE010-42.54 W D5LT-42.539 W DMX-41.87 W DL2-41.57 W DL3-44.71 W DLE-39.33 W
Light Source: HIGH LUMEN LED 3500 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3474.0 lumens
Efficiency: N/A
Efficacy: 80.8 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.2 / 1.29
Luminous Opening: Point Source (0' x 0' x 0')
CIE Type: Direct

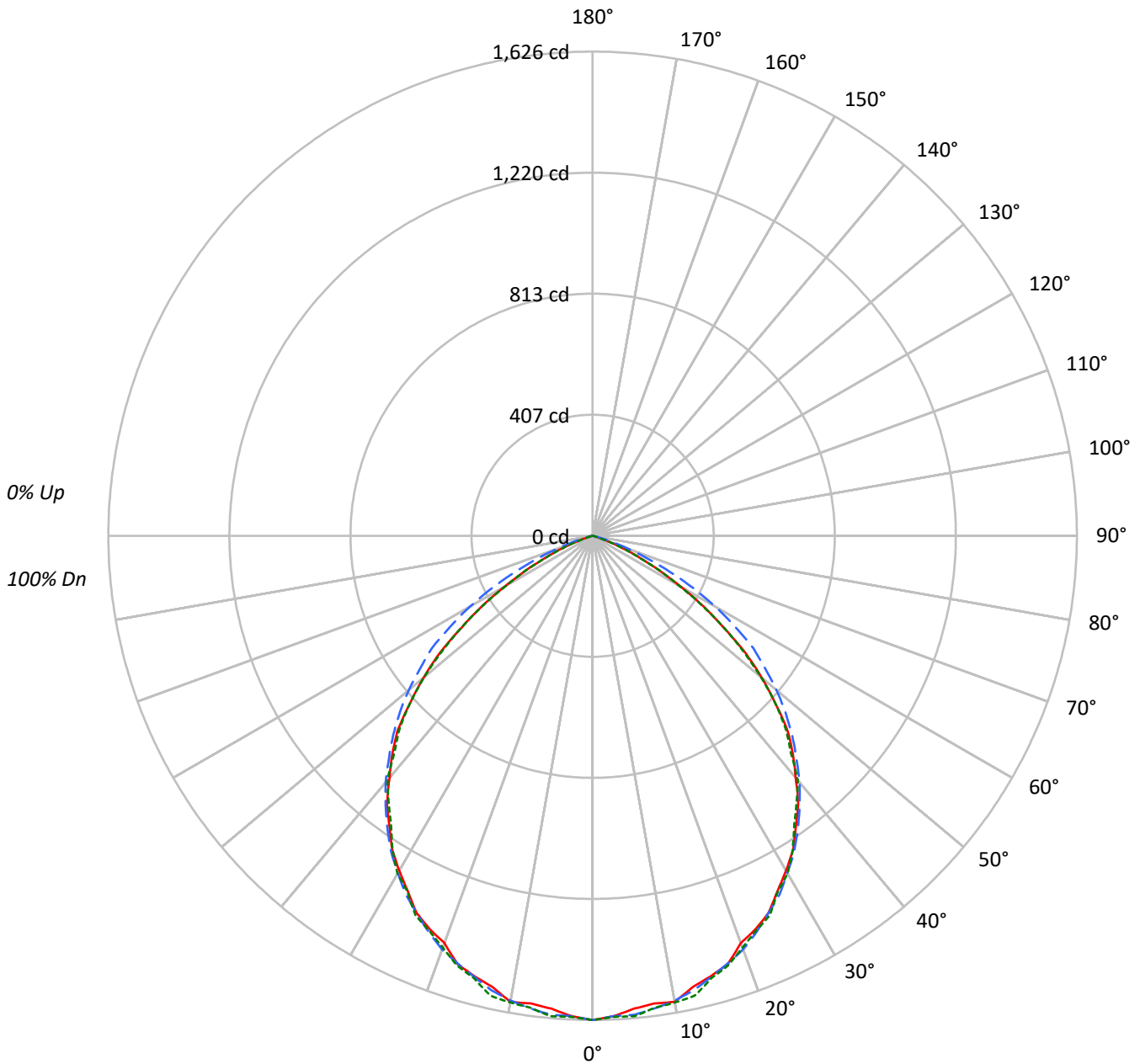
Input Watts (W): 43.02
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	111	108	104	101	109	105	102	100	101	99	96	97	95	94	94	92	91	89																			
2	103	96	91	86	100	94	89	85	91	87	83	88	84	81	85	82	79	77																			
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67																			
4	88	77	70	64	86	76	69	63	74	67	63	71	66	62	69	65	61	59																			
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52																			
6	75	63	55	49	73	62	55	49	61	54	49	59	53	48	57	52	48	46																			
7	70	58	50	44	68	57	49	44	55	49	44	54	48	43	53	47	43	41																			
8	65	53	45	40	64	52	45	39	51	44	39	50	44	39	49	43	39	37																			
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	33																			
10	57	45	38	33	56	44	37	33	44	37	32	43	37	32	42	36	32	31																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	Luminaire represents a point source (luminous area is zero).		
5°	No luminance values can be calculated.		
10°			
15°			
20°			
25°			
30°			
35°			
40°			
45°			
50°			
55°			
60°			
65°			
70°			
75°			
80°			
85°			



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.5	4.4
10°-20°	434.4	12.5
20°-30°	644.5	18.6
30°-40°	746.8	21.5
40°-50°	716.0	20.6
50°-60°	526.5	15.2
60°-70°	227.4	6.5
70°-80°	24.5	0.7
80°-90°	0.3	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°	1232.4	35.5
0°-40°	1979.3	57.0
0°-60°	3221.8	92.7
0°-90°	3474.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3474.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1626	1626	1626	1626	1626	
5°	1594	1610	1615	1617	1619	152
15°	1532	1541	1534	1536	1538	432
25°	1398	1395	1398	1400	1407	640
35°	1190	1197	1201	1199	1180	744
45°	926	929	947	933	917	704
55°	536	591	658	589	538	482
65°	176	220	286	217	171	180
75°	5	7	25	5	5	14
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1626.3	1626.3	1626.3	1626.3	1626.3	1626.3	1626.3	1626.3	1626.3	1626.3	1626.3
2.5°	1614.7	1633.2	1635.5	1624.0	1619.4	1612.4	1628.6	1617.1	1621.7	1617.1	1614.7
5°	1594.0	1614.7	1617.1	1617.1	1612.4	1610.1	1617.1	1614.7	1612.4	1607.8	1614.7
7.5°	1584.7	1596.3	1607.8	1594.0	1600.9	1598.6	1614.7	1607.8	1605.5	1605.5	1600.9
10°	1589.3	1587.0	1596.3	1582.4	1587.0	1582.4	1596.3	1596.3	1591.6	1587.0	1584.7
12.5°	1552.4	1570.9	1570.9	1568.5	1563.9	1557.0	1570.9	1580.1	1566.2	1566.2	1563.9
15°	1531.6	1536.2	1538.5	1538.5	1536.2	1540.8	1547.8	1538.5	1540.8	1529.3	1533.9
17.5°	1508.5	1499.2	1506.2	1501.5	1503.9	1508.5	1517.7	1517.7	1503.9	1501.5	1506.2
20°	1455.3	1483.1	1485.4	1471.5	1473.8	1473.8	1490.0	1476.1	1485.4	1473.8	1478.4
22.5°	1429.9	1448.4	1450.7	1432.2	1443.8	1429.9	1446.1	1425.3	1448.4	1432.2	1439.2
25°	1397.6	1395.3	1402.2	1393.0	1395.3	1395.3	1406.8	1397.6	1404.5	1395.3	1397.6
27.5°	1344.5	1362.9	1360.6	1351.4	1356.0	1353.7	1376.8	1351.4	1365.3	1353.7	1358.3
30°	1298.3	1314.4	1309.8	1300.6	1300.6	1293.6	1319.1	1312.1	1309.8	1309.8	1307.5
32.5°	1252.1	1254.4	1249.8	1252.1	1254.4	1245.1	1265.9	1256.7	1254.4	1256.7	1259.0
35°	1189.7	1189.7	1194.3	1187.4	1196.6	1196.6	1215.1	1203.5	1201.2	1194.3	1201.2
37.5°	1134.2	1127.3	1129.6	1129.6	1134.2	1138.9	1148.1	1143.5	1143.5	1136.6	1141.2
40°	1060.3	1055.7	1062.6	1062.6	1069.6	1069.6	1078.8	1074.2	1081.1	1081.1	1081.1
42.5°	995.6	995.6	991.0	998.0	1000.3	998.0	1014.1	1011.8	1014.1	1009.5	1011.8
45°	926.3	926.3	921.7	919.4	931.0	928.7	947.1	940.2	949.4	944.8	947.1
47.5°	831.6	843.2	836.2	843.2	857.0	859.3	870.9	866.3	875.5	868.6	877.8
50°	741.5	741.5	748.5	757.7	771.6	773.9	787.7	797.0	801.6	803.9	806.2
52.5°	646.8	644.5	651.4	663.0	674.5	683.8	697.6	711.5	720.7	734.6	727.7
55°	535.9	540.6	547.5	561.3	579.8	591.4	602.9	621.4	637.6	644.5	658.4
57.5°	441.2	436.6	441.2	459.7	480.5	489.7	505.9	524.4	547.5	561.3	566.0
60°	341.9	344.2	348.8	365.0	381.2	395.0	402.0	432.0	452.8	466.6	475.9
62.5°	251.8	256.4	261.0	274.9	291.1	302.6	314.2	339.6	358.1	371.9	381.2
65°	175.6	177.9	184.8	191.7	207.9	219.5	228.7	249.5	268.0	279.5	286.4
67.5°	108.6	110.9	115.5	124.7	136.3	145.5	154.8	168.6	184.8	196.4	198.7
70°	55.4	57.8	60.1	67.0	76.2	80.9	87.8	99.3	110.9	120.1	124.7
72.5°	18.5	18.5	20.8	25.4	30.0	34.7	37.0	48.5	57.8	62.4	64.7
75°	4.6	4.6	4.6	4.6	4.6	6.9	6.9	13.9	18.5	23.1	25.4
77.5°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	4.6	4.6
80°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
82.5°	0.0	0.0	0.0	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	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	1626.3	1626.3	1626.3	1626.3	1626.3	1626.3	1626.3	1626.3	1626.3	1626.3
2.5°	1626.3	1621.7	1619.4	1621.7	1621.7	1619.4	1626.3	1635.5	1647.1	1617.1
5°	1624.0	1619.4	1624.0	1610.1	1617.1	1612.4	1621.7	1619.4	1628.6	1619.4
7.5°	1617.1	1607.8	1610.1	1603.2	1612.4	1600.9	1607.8	1621.7	1612.4	1598.6
10°	1594.0	1589.3	1605.5	1582.4	1577.8	1587.0	1605.5	1591.6	1587.0	1591.6
12.5°	1570.9	1570.9	1577.8	1559.3	1561.6	1566.2	1575.5	1566.2	1570.9	1582.4
15°	1545.4	1540.8	1552.4	1538.5	1536.2	1531.6	1540.8	1540.8	1545.4	1538.5
17.5°	1515.4	1508.5	1508.5	1503.9	1501.5	1513.1	1517.7	1520.0	1522.3	1513.1
20°	1478.4	1476.1	1483.1	1476.1	1478.4	1480.8	1480.8	1476.1	1496.9	1471.5
22.5°	1439.2	1446.1	1436.9	1432.2	1436.9	1441.5	1441.5	1443.8	1439.2	1434.6
25°	1399.9	1404.5	1406.8	1393.0	1399.9	1393.0	1409.1	1411.5	1402.2	1406.8
27.5°	1365.3	1358.3	1356.0	1346.8	1351.4	1349.1	1351.4	1351.4	1365.3	1346.8
30°	1312.1	1305.2	1307.5	1300.6	1302.9	1300.6	1302.9	1302.9	1312.1	1309.8
32.5°	1261.3	1254.4	1256.7	1249.8	1249.8	1252.1	1247.4	1247.4	1254.4	1249.8
35°	1212.8	1196.6	1198.9	1196.6	1198.9	1189.7	1189.7	1187.4	1192.0	1180.4
37.5°	1143.5	1136.6	1134.2	1131.9	1134.2	1129.6	1134.2	1127.3	1134.2	1125.0
40°	1081.1	1076.5	1078.8	1064.9	1064.9	1067.3	1062.6	1060.3	1062.6	1071.9
42.5°	1018.7	1009.5	1004.9	1000.3	1002.6	995.6	993.3	988.7	993.3	984.1
45°	944.8	944.8	942.5	931.0	933.3	933.3	924.0	914.8	917.1	917.1
47.5°	877.8	873.2	870.9	859.3	857.0	854.7	845.5	838.6	838.6	831.6
50°	803.9	799.3	792.4	780.8	776.2	762.3	755.4	746.2	736.9	736.9
52.5°	734.6	718.4	709.2	690.7	683.8	676.9	658.4	651.4	644.5	637.6
55°	651.4	637.6	619.1	598.3	589.1	577.5	559.0	545.2	535.9	538.2
57.5°	570.6	547.5	529.0	501.3	489.7	482.8	464.3	445.8	436.6	436.6
60°	471.3	452.8	429.7	404.3	395.0	383.5	360.4	348.8	341.9	335.0
62.5°	376.5	362.7	341.9	309.6	302.6	291.1	274.9	261.0	254.1	254.1
65°	281.8	268.0	249.5	226.4	217.1	207.9	194.0	180.2	173.3	170.9
67.5°	198.7	182.5	166.3	147.8	140.9	136.3	122.4	113.2	108.6	106.3
70°	120.1	110.9	99.3	85.5	78.5	73.9	64.7	57.8	55.4	53.1
72.5°	62.4	55.4	46.2	37.0	32.3	27.7	23.1	18.5	16.2	16.2
75°	23.1	18.5	11.6	6.9	4.6	4.6	4.6	4.6	4.6	4.6
77.5°	4.6	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
80°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
82.5°	0.0	0.0	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	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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









(END OF REPORT)