

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: P209241

Luminaire Tested: **LDSQ4B30D010 EU4B30508030 4LBCSSQ1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209241
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: LDSQ4B30D010 EU4B30508030 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-27.4 W DE010-27.95 W D5LT-27.65 W DMX-27.73 W DL2-29.56 W
DL3-29.67 W DLE-29.73 W
Light Source: HIGH LUMEN LED 3000 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2863.2 lumens
Efficiency: N/A
Efficacy: 102.3 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

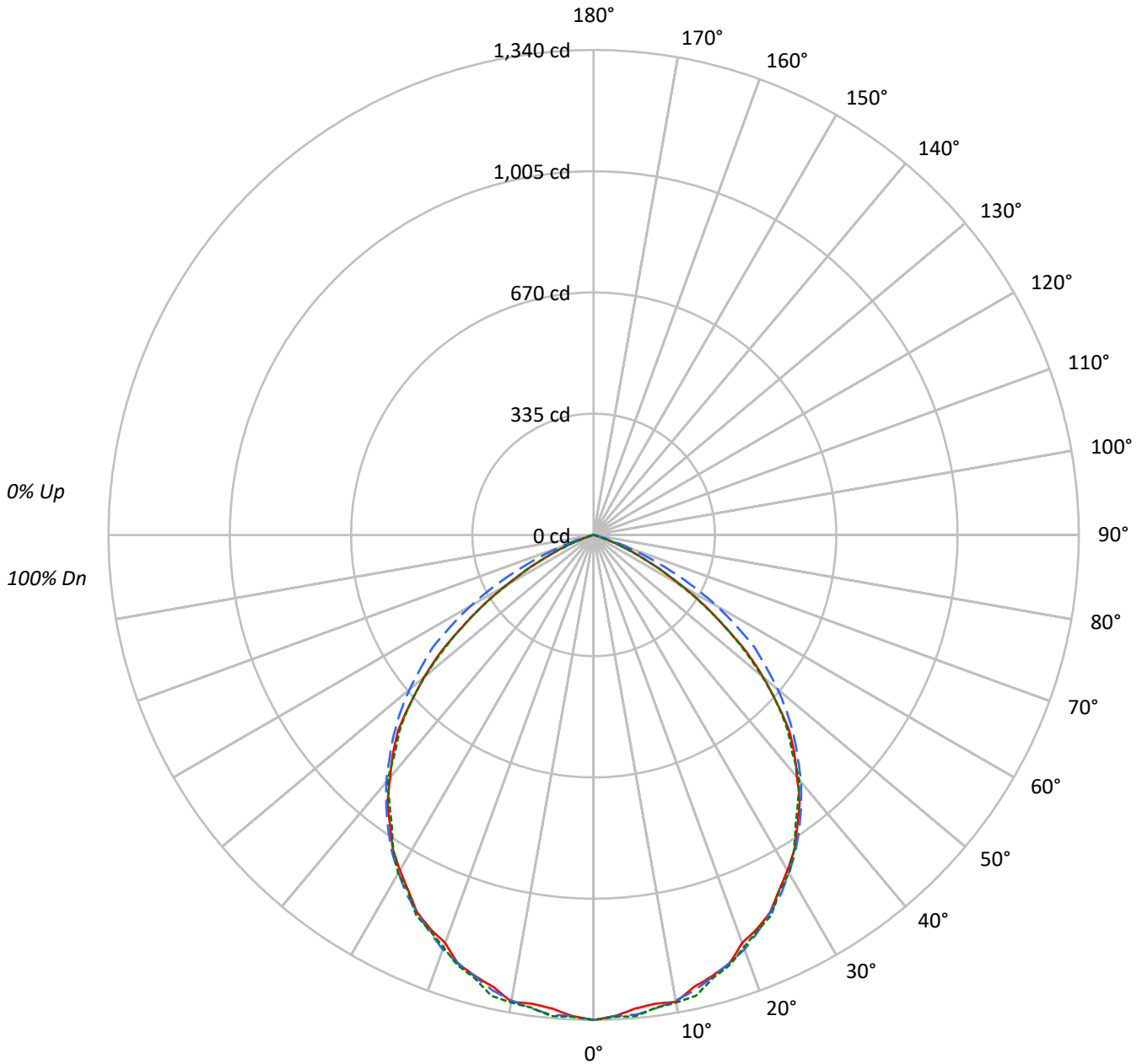
Input Watts (W): 28
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	126.5	4.4
10°-20°	358.0	12.5
20°-30°	531.2	18.6
30°-40°	615.5	21.5
40°-50°	590.1	20.6
50°-60°	433.9	15.2
60°-70°	187.4	6.5
70°-80°	20.2	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°	1015.7	35.5
0°-40°	1631.2	57.0
0°-60°	2655.3	92.7
0°-90°	2863.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2863.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1340	1340	1340	1340	1340	
5°	1314	1327	1331	1333	1335	125
15°	1262	1270	1264	1266	1268	356
25°	1152	1150	1152	1154	1160	527
35°	980	986	990	988	973	613
45°	763	765	781	769	756	580
55°	442	487	543	486	444	397
65°	145	181	236	179	141	149
75°	4	6	21	4	4	12
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°	1340.3	1340.3	1340.3	1340.3	1340.3	1340.3	1340.3	1340.3	1340.3	1340.3	1340.3
2.5°	1330.8	1346.0	1347.9	1338.4	1334.6	1328.9	1342.2	1332.7	1336.5	1332.7	1330.8
5°	1313.7	1330.8	1332.7	1332.7	1328.9	1327.0	1332.7	1330.8	1328.9	1325.1	1330.8
7.5°	1306.1	1315.6	1325.1	1313.7	1319.4	1317.5	1330.8	1325.1	1323.2	1323.2	1319.4
10°	1309.9	1308.0	1315.6	1304.1	1308.0	1304.1	1315.6	1315.6	1311.8	1308.0	1306.1
12.5°	1279.4	1294.6	1294.6	1292.7	1288.9	1283.2	1294.6	1302.2	1290.8	1290.8	1288.9
15°	1262.3	1266.1	1268.0	1268.0	1266.1	1269.9	1275.6	1268.0	1269.9	1260.4	1264.2
17.5°	1243.2	1235.6	1241.3	1237.5	1239.4	1243.2	1250.8	1250.8	1239.4	1237.5	1241.3
20°	1199.4	1222.3	1224.2	1212.8	1214.7	1214.7	1228.0	1216.6	1224.2	1214.7	1218.5
22.5°	1178.5	1193.7	1195.6	1180.4	1189.9	1178.5	1191.8	1174.7	1193.7	1180.4	1186.1
25°	1151.8	1149.9	1155.6	1148.0	1149.9	1149.9	1159.5	1151.8	1157.5	1149.9	1151.8
27.5°	1108.0	1123.3	1121.4	1113.8	1117.6	1115.7	1134.7	1113.8	1125.2	1115.7	1119.5
30°	1070.0	1083.3	1079.5	1071.9	1071.9	1066.2	1087.1	1081.4	1079.5	1079.5	1077.6
32.5°	1031.9	1033.8	1030.0	1031.9	1033.8	1026.2	1043.3	1035.7	1033.8	1035.7	1037.6
35°	980.5	980.5	984.3	978.6	986.2	986.2	1001.4	991.9	990.0	984.3	990.0
37.5°	934.8	929.1	931.0	931.0	934.8	938.6	946.2	942.4	942.4	936.7	940.5
40°	873.9	870.1	875.8	875.8	881.5	881.5	889.1	885.3	891.0	891.0	891.0
42.5°	820.6	820.6	816.8	822.5	824.4	822.5	835.8	833.9	835.8	832.0	833.9
45°	763.4	763.4	759.6	757.7	767.3	765.4	780.6	774.9	782.5	778.7	780.6
47.5°	685.4	694.9	689.2	694.9	706.3	708.2	717.8	713.9	721.6	715.9	723.5
50°	611.1	611.1	616.9	624.5	635.9	637.8	649.2	656.8	660.6	662.5	664.4
52.5°	533.1	531.2	536.9	546.4	555.9	563.5	575.0	586.4	594.0	605.4	599.7
55°	441.7	445.5	451.2	462.6	477.9	487.4	496.9	512.1	525.5	531.2	542.6
57.5°	363.6	359.8	363.6	378.9	396.0	403.6	416.9	432.2	451.2	462.6	466.4
60°	281.8	283.7	287.5	300.8	314.1	325.6	331.3	356.0	373.2	384.6	392.2
62.5°	207.5	211.3	215.1	226.6	239.9	249.4	258.9	279.9	295.1	306.5	314.1
65°	144.7	146.6	152.3	158.0	171.3	180.9	188.5	205.6	220.8	230.4	236.1
67.5°	89.5	91.4	95.2	102.8	112.3	119.9	127.6	139.0	152.3	161.8	163.7
70°	45.7	47.6	49.5	55.2	62.8	66.6	72.3	81.9	91.4	99.0	102.8
72.5°	15.2	15.2	17.1	20.9	24.8	28.6	30.5	40.0	47.6	51.4	53.3
75°	3.8	3.8	3.8	3.8	3.8	5.7	5.7	11.4	15.2	19.0	20.9
77.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	3.8	3.8
80°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
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°	1340.3	1340.3	1340.3	1340.3	1340.3	1340.3	1340.3	1340.3	1340.3	1340.3
2.5°	1340.3	1336.5	1334.6	1336.5	1336.5	1334.6	1340.3	1347.9	1357.5	1332.7
5°	1338.4	1334.6	1338.4	1327.0	1332.7	1328.9	1336.5	1334.6	1342.2	1334.6
7.5°	1332.7	1325.1	1327.0	1321.3	1328.9	1319.4	1325.1	1336.5	1328.9	1317.5
10°	1313.7	1309.9	1323.2	1304.1	1300.3	1308.0	1323.2	1311.8	1308.0	1311.8
12.5°	1294.6	1294.6	1300.3	1285.1	1287.0	1290.8	1298.4	1290.8	1294.6	1304.1
15°	1273.7	1269.9	1279.4	1268.0	1266.1	1262.3	1269.9	1269.9	1273.7	1268.0
17.5°	1248.9	1243.2	1243.2	1239.4	1237.5	1247.0	1250.8	1252.7	1254.6	1247.0
20°	1218.5	1216.6	1222.3	1216.6	1218.5	1220.4	1220.4	1216.6	1233.7	1212.8
22.5°	1186.1	1191.8	1184.2	1180.4	1184.2	1188.0	1188.0	1189.9	1186.1	1182.3
25°	1153.7	1157.5	1159.5	1148.0	1153.7	1148.0	1161.4	1163.3	1155.6	1159.5
27.5°	1125.2	1119.5	1117.6	1110.0	1113.8	1111.9	1113.8	1113.8	1125.2	1110.0
30°	1081.4	1075.7	1077.6	1071.9	1073.8	1071.9	1073.8	1073.8	1081.4	1079.5
32.5°	1039.5	1033.8	1035.7	1030.0	1030.0	1031.9	1028.1	1028.1	1033.8	1030.0
35°	999.5	986.2	988.1	986.2	988.1	980.5	980.5	978.6	982.4	972.9
37.5°	942.4	936.7	934.8	932.9	934.8	931.0	934.8	929.1	934.8	927.2
40°	891.0	887.2	889.1	877.7	877.7	879.6	875.8	873.9	875.8	883.4
42.5°	839.6	832.0	828.2	824.4	826.3	820.6	818.7	814.9	818.7	811.0
45°	778.7	778.7	776.8	767.3	769.2	769.2	761.5	753.9	755.8	755.8
47.5°	723.5	719.7	717.8	708.2	706.3	704.4	696.8	691.1	691.1	685.4
50°	662.5	658.7	653.0	643.5	639.7	628.3	622.6	614.9	607.3	607.3
52.5°	605.4	592.1	584.5	569.3	563.5	557.8	542.6	536.9	531.2	525.5
55°	536.9	525.5	510.2	493.1	485.5	476.0	460.7	449.3	441.7	443.6
57.5°	470.3	451.2	436.0	413.1	403.6	397.9	382.7	367.4	359.8	359.8
60°	388.4	373.2	354.1	333.2	325.6	316.0	297.0	287.5	281.8	276.1
62.5°	310.3	298.9	281.8	255.1	249.4	239.9	226.6	215.1	209.4	209.4
65°	232.3	220.8	205.6	186.6	179.0	171.3	159.9	148.5	142.8	140.9
67.5°	163.7	150.4	137.1	121.8	116.1	112.3	100.9	93.3	89.5	87.6
70°	99.0	91.4	81.9	70.4	64.7	60.9	53.3	47.6	45.7	43.8
72.5°	51.4	45.7	38.1	30.5	26.7	22.8	19.0	15.2	13.3	13.3
75°	19.0	15.2	9.5	5.7	3.8	3.8	3.8	3.8	3.8	3.8
77.5°	3.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
80°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
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)