

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: P209245

Luminaire Tested: **LDSQ4B30D010 EU4B30509024 4LBCSSQ1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209245
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 EU4B30509024 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 2400 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2069.0 lumens
Efficiency: N/A
Efficacy: 73.9 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

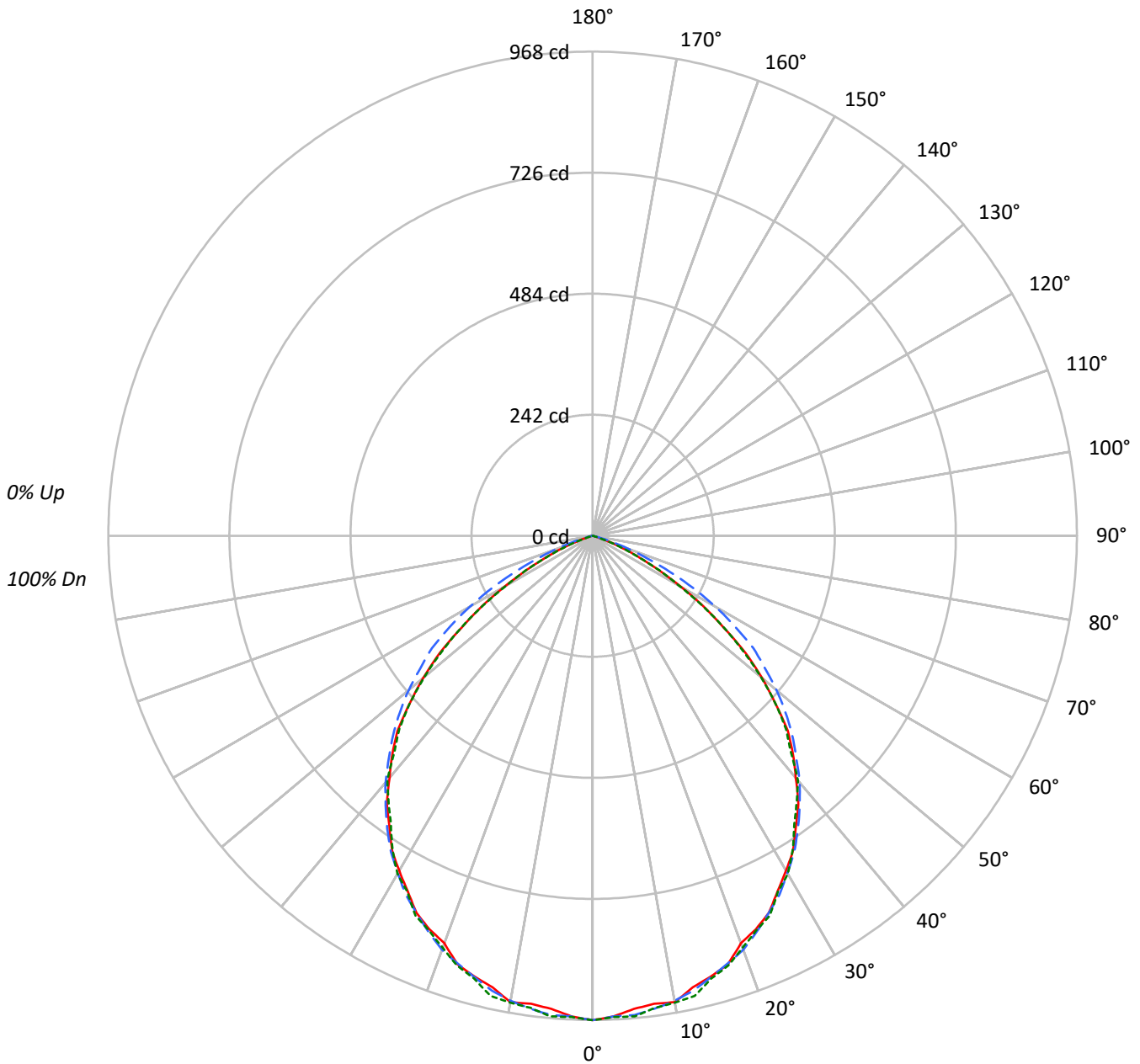
Input Watts (W): 28
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	91.4	4.4
10°-20°	258.7	12.5
20°-30°	383.9	18.6
30°-40°	444.8	21.5
40°-50°	426.4	20.6
50°-60°	313.5	15.2
60°-70°	135.4	6.5
70°-80°	14.6	0.7
80°-90°	0.2	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°	734.0	35.5
0°-40°	1178.8	57.0
0°-60°	1918.7	92.7
0°-90°	2069.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2069.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	968	968	968	968	968	
5°	949	959	962	963	964	91
15°	912	918	914	915	916	257
25°	832	831	832	834	838	381
35°	708	713	715	714	703	443
45°	552	553	564	556	546	419
55°	319	352	392	351	321	287
65°	105	131	171	129	102	108
75°	3	4	15	3	3	8
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°	968.5	968.5	968.5	968.5	968.5	968.5	968.5	968.5	968.5	968.5	968.5
2.5°	961.7	972.7	974.0	967.2	964.4	960.3	969.9	963.0	965.8	963.0	961.7
5°	949.3	961.7	963.0	963.0	960.3	958.9	963.0	961.7	960.3	957.5	961.7
7.5°	943.8	950.6	957.5	949.3	953.4	952.0	961.7	957.5	956.1	956.1	953.4
10°	946.5	945.1	950.6	942.4	945.1	942.4	950.6	950.6	947.9	945.1	943.8
12.5°	924.5	935.5	935.5	934.1	931.4	927.3	935.5	941.0	932.8	932.8	931.4
15°	912.1	914.9	916.3	916.3	914.9	917.6	921.8	916.3	917.6	910.7	913.5
17.5°	898.4	892.9	897.0	894.2	895.6	898.4	903.9	903.9	895.6	894.2	897.0
20°	866.7	883.2	884.6	876.4	877.7	877.7	887.4	879.1	884.6	877.7	880.5
22.5°	851.6	862.6	864.0	853.0	859.8	851.6	861.2	848.8	862.6	853.0	857.1
25°	832.3	831.0	835.1	829.6	831.0	831.0	837.8	832.3	836.5	831.0	832.3
27.5°	800.7	811.7	810.3	804.8	807.6	806.2	819.9	804.8	813.1	806.2	808.9
30°	773.2	782.8	780.1	774.5	774.5	770.4	785.6	781.4	780.1	780.1	778.7
32.5°	745.7	747.0	744.3	745.7	747.0	741.5	753.9	748.4	747.0	748.4	749.8
35°	708.5	708.5	711.3	707.1	712.6	712.6	723.6	716.8	715.4	711.3	715.4
37.5°	675.5	671.4	672.7	672.7	675.5	678.2	683.7	681.0	681.0	676.9	679.6
40°	631.5	628.7	632.8	632.8	637.0	637.0	642.5	639.7	643.9	643.9	643.9
42.5°	592.9	592.9	590.2	594.3	595.7	594.3	604.0	602.6	604.0	601.2	602.6
45°	551.7	551.7	548.9	547.5	554.4	553.1	564.1	559.9	565.4	562.7	564.1
47.5°	495.3	502.1	498.0	502.1	510.4	511.8	518.7	515.9	521.4	517.3	522.8
50°	441.6	441.6	445.7	451.2	459.5	460.9	469.1	474.6	477.4	478.8	480.1
52.5°	385.2	383.8	388.0	394.8	401.7	407.2	415.5	423.7	429.2	437.5	433.4
55°	319.2	321.9	326.1	334.3	345.3	352.2	359.1	370.1	379.7	383.8	392.1
57.5°	262.8	260.0	262.8	273.8	286.2	291.7	301.3	312.3	326.1	334.3	337.1
60°	203.6	205.0	207.7	217.4	227.0	235.3	239.4	257.3	269.6	277.9	283.4
62.5°	150.0	152.7	155.5	163.7	173.3	180.2	187.1	202.2	213.2	221.5	227.0
65°	104.6	105.9	110.1	114.2	123.8	130.7	136.2	148.6	159.6	166.5	170.6
67.5°	64.7	66.0	68.8	74.3	81.2	86.7	92.2	100.4	110.1	116.9	118.3
70°	33.0	34.4	35.8	39.9	45.4	48.2	52.3	59.2	66.0	71.5	74.3
72.5°	11.0	11.0	12.4	15.1	17.9	20.6	22.0	28.9	34.4	37.1	38.5
75°	2.8	2.8	2.8	2.8	2.8	4.1	4.1	8.3	11.0	13.8	15.1
77.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	2.8	2.8
80°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
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°	968.5	968.5	968.5	968.5	968.5	968.5	968.5	968.5	968.5	968.5
2.5°	968.5	965.8	964.4	965.8	965.8	964.4	968.5	974.0	980.9	963.0
5°	967.2	964.4	967.2	958.9	963.0	960.3	965.8	964.4	969.9	964.4
7.5°	963.0	957.5	958.9	954.8	960.3	953.4	957.5	965.8	960.3	952.0
10°	949.3	946.5	956.1	942.4	939.6	945.1	956.1	947.9	945.1	947.9
12.5°	935.5	935.5	939.6	928.6	930.0	932.8	938.3	932.8	935.5	942.4
15°	920.4	917.6	924.5	916.3	914.9	912.1	917.6	917.6	920.4	916.3
17.5°	902.5	898.4	898.4	895.6	894.2	901.1	903.9	905.2	906.6	901.1
20°	880.5	879.1	883.2	879.1	880.5	881.9	881.9	879.1	891.5	876.4
22.5°	857.1	861.2	855.7	853.0	855.7	858.5	858.5	859.8	857.1	854.3
25°	833.7	836.5	837.8	829.6	833.7	829.6	839.2	840.6	835.1	837.8
27.5°	813.1	808.9	807.6	802.1	804.8	803.4	804.8	804.8	813.1	802.1
30°	781.4	777.3	778.7	774.5	775.9	774.5	775.9	775.9	781.4	780.1
32.5°	751.2	747.0	748.4	744.3	744.3	745.7	742.9	742.9	747.0	744.3
35°	722.3	712.6	714.0	712.6	714.0	708.5	708.5	707.1	709.9	703.0
37.5°	681.0	676.9	675.5	674.1	675.5	672.7	675.5	671.4	675.5	670.0
40°	643.9	641.1	642.5	634.2	634.2	635.6	632.8	631.5	632.8	638.3
42.5°	606.7	601.2	598.5	595.7	597.1	592.9	591.6	588.8	591.6	586.1
45°	562.7	562.7	561.3	554.4	555.8	555.8	550.3	544.8	546.2	546.2
47.5°	522.8	520.0	518.7	511.8	510.4	509.0	503.5	499.4	499.4	495.3
50°	478.8	476.0	471.9	465.0	462.3	454.0	449.9	444.4	438.9	438.9
52.5°	437.5	427.9	422.4	411.4	407.2	403.1	392.1	388.0	383.8	379.7
55°	388.0	379.7	368.7	356.3	350.8	343.9	332.9	324.7	319.2	320.6
57.5°	339.8	326.1	315.0	298.5	291.7	287.5	276.5	265.5	260.0	260.0
60°	280.7	269.6	255.9	240.8	235.3	228.4	214.6	207.7	203.6	199.5
62.5°	224.2	216.0	203.6	184.4	180.2	173.3	163.7	155.5	151.3	151.3
65°	167.8	159.6	148.6	134.8	129.3	123.8	115.6	107.3	103.2	101.8
67.5°	118.3	108.7	99.1	88.0	83.9	81.2	72.9	67.4	64.7	63.3
70°	71.5	66.0	59.2	50.9	46.8	44.0	38.5	34.4	33.0	31.6
72.5°	37.1	33.0	27.5	22.0	19.3	16.5	13.8	11.0	9.6	9.6
75°	13.8	11.0	6.9	4.1	2.8	2.8	2.8	2.8	2.8	2.8
77.5°	2.8	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
80°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
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)