

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: PORTFOLIO

Report Number: P#

Luminaire Tested: **LD4C20D010 EX4C209040 4LBSQLWWH**

Issue Date: 2/18/2022

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



**Test Information**

Test Method: LM-79-08  
Report Number: P#  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P219529)  
Test Lab: INNOVATION CENTER  
Issue Date: 2/18/2022  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: PORTFOLIO  
Catalog Number: LD4C20D010 EX4C209040 4LBSQLWWH  
Description: 4 INCH 2000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 4000K, 90CRI LEDS  
AND 4LBSQLWW TRIM WITH H FINISH  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

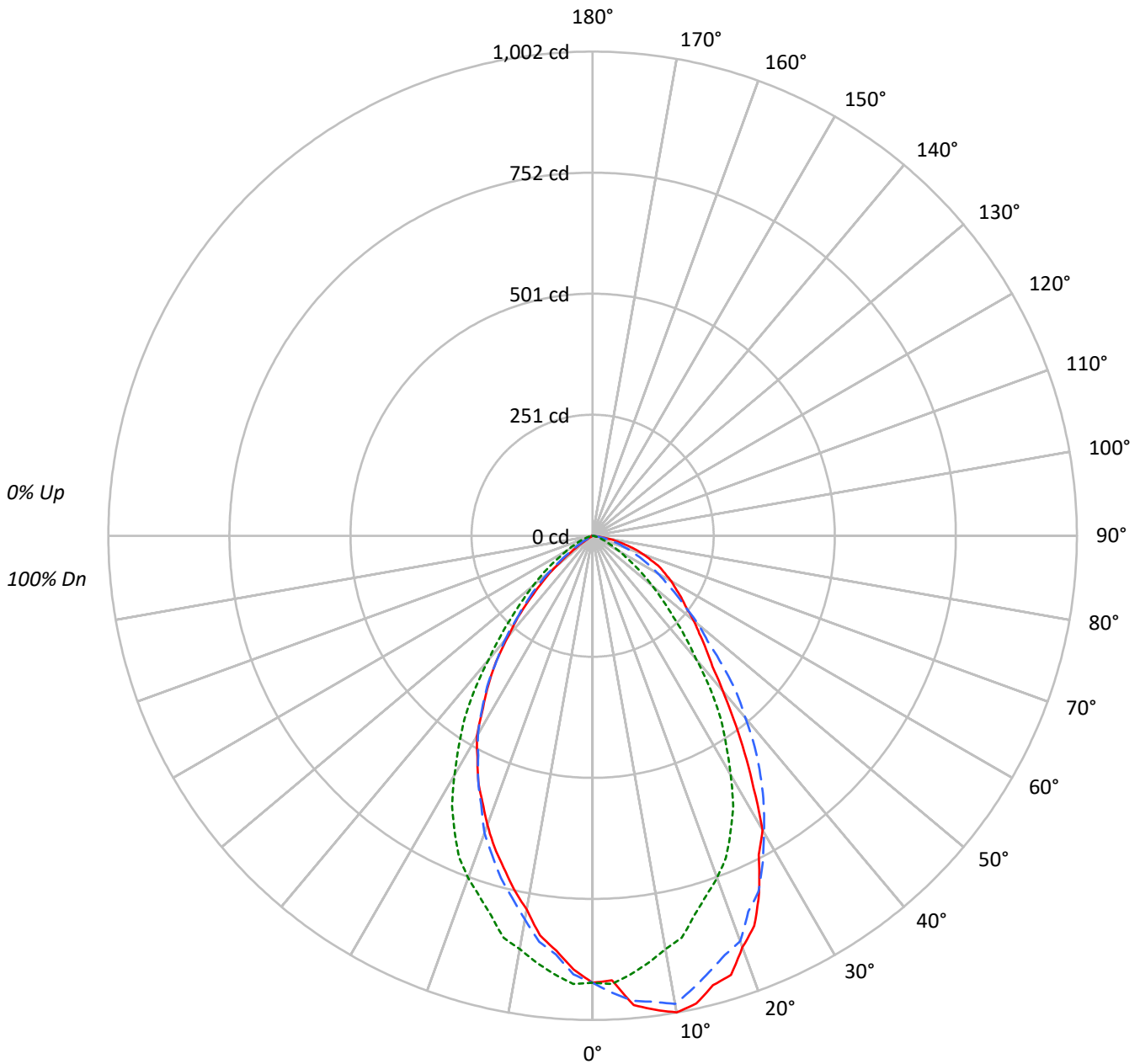
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1326.0 lumens  
Efficiency: N/A  
Efficacy: 60.8 lumens/watt  
Spacing Criteria (0/90/45): 1.01 / 1 / 1.06  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 21.8  
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: 25 FT

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CATALOG NUMBER: LD4C20D010 EX4C209040 4LBSQLWWH

### 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	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100			
1	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90			
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	80			
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72			
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64			
5	85	75	67	62	83	74	67	62	72	66	61	70	65	60	68	64	60	58			
6	80	69	61	56	78	68	61	56	66	60	55	65	59	55	63	58	54	53			
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	48			
8	70	59	52	47	69	58	51	46	57	51	46	56	50	46	55	50	46	44			
9	66	55	48	43	65	54	47	43	53	47	43	52	46	42	51	46	42	41			
10	62	51	44	40	61	51	44	40	50	44	39	49	43	39	48	43	39	38			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	89252	89252	89252
5°	94436	88208	83481
10°	98134	85093	76942
15°	96177	81213	71024
20°	93050	77329	65377
25°	86800	71916	59630
30°	78348	63641	53390
35°	64538	54478	44289
40°	52675	42057	34084
45°	45262	31944	24521
50°	40965	24318	15491
55°	37699	17546	5602
60°	36183	11984	849
65°	34955	8105	251
70°	31287	5614	310
75°	25649	2908	0
80°	16058	1222	0
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	86.7	6.5
10°-20°	233.5	17.6
20°-30°	311.8	23.5
30°-40°	296.0	22.3
40°-50°	204.6	15.4
50°-60°	113.1	8.5
60°-70°	56.1	4.2
70°-80°	22.1	1.7
80°-90°	2.1	0.2
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°	632.0	47.7
0°-40°	928.0	70.0
0°-60°	1245.6	93.9
0°-90°	1326.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1326.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	925	925	925	925	925	
5°	975	966	911	870	862	93
15°	963	934	813	733	711	272
25°	815	812	676	560	560	372
35°	548	606	462	380	376	343
45°	332	380	234	192	180	259
55°	224	211	104	53	33	202
65°	153	111	36	1	1	149
75°	69	42	8	0	0	73
85°	0	1	0	0	0	6
90°	0	0	0	0	0	



TEST NUMBER: P#

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	925.0	925.0	925.0	925.0	925.0	925.0	925.0	925.0	925.0	925.0	925.0
2.5°	920.6	946.1	948.3	946.1	949.5	948.3	953.9	948.3	955.0	945.0	947.3
5°	975.0	965.0	986.1	975.0	975.0	973.9	970.5	969.4	973.9	959.5	966.1
7.5°	989.4	1003.8	1022.7	999.4	1000.5	1000.5	993.8	991.6	991.6	965.0	972.8
10°	1001.6	992.7	1002.7	993.8	1001.6	1000.5	1004.9	990.5	1000.5	985.0	983.8
12.5°	991.6	988.3	1001.6	987.2	982.8	983.8	978.3	975.0	978.3	960.6	959.5
15°	962.8	966.1	986.1	970.5	968.3	966.1	959.5	948.3	957.2	932.8	934.0
17.5°	952.8	947.3	950.6	937.3	940.6	938.4	937.3	927.3	925.0	909.5	909.5
20°	906.2	918.4	918.4	909.5	909.5	908.4	894.0	902.9	892.9	888.5	892.9
22.5°	874.0	875.2	875.2	867.4	868.5	864.1	856.3	850.7	856.3	850.7	841.9
25°	815.3	817.5	830.8	816.4	814.1	818.6	811.9	808.6	807.5	794.2	811.9
27.5°	744.3	766.4	765.3	759.8	766.4	757.6	754.3	755.4	758.7	757.6	762.0
30°	703.2	706.6	709.9	705.5	706.6	703.2	703.2	704.3	713.2	709.9	708.8
32.5°	620.0	631.1	640.0	640.0	641.1	644.5	643.3	666.6	672.2	661.1	658.9
35°	547.9	555.7	563.5	564.6	579.0	580.1	581.2	587.9	603.4	606.7	605.6
37.5°	479.2	486.9	489.1	499.1	506.9	514.6	523.6	532.4	545.7	556.8	551.3
40°	418.2	421.5	427.0	431.5	447.0	447.0	451.4	469.2	483.6	492.5	491.4
42.5°	367.2	368.2	372.7	380.5	394.9	391.5	394.9	407.1	428.1	429.3	441.5
45°	331.7	330.5	333.9	335.0	343.9	348.3	350.5	359.4	377.1	379.3	380.5
47.5°	299.5	298.4	303.9	306.1	309.5	313.9	313.9	315.0	321.7	327.2	322.8
50°	272.9	272.9	272.9	275.1	280.6	279.5	280.6	285.1	288.4	286.2	285.1
52.5°	244.0	248.4	251.8	252.9	254.0	254.0	255.1	252.9	251.8	248.4	241.8
55°	224.1	228.5	228.5	228.5	228.5	232.9	227.4	228.5	228.5	219.6	210.8
57.5°	204.1	208.5	211.8	207.4	211.8	207.4	205.2	204.1	201.9	193.0	179.7
60°	187.5	189.7	188.6	187.5	189.7	186.3	184.1	179.7	177.5	165.3	156.4
62.5°	168.6	169.7	170.8	168.6	166.4	165.3	160.8	154.2	149.7	139.8	132.0
65°	153.1	149.7	148.6	147.5	145.3	142.0	138.7	130.9	127.5	118.7	110.9
67.5°	129.8	128.7	130.9	127.5	122.0	122.0	118.7	112.0	104.3	98.7	91.0
70°	110.9	109.8	107.6	104.3	103.2	98.7	98.7	91.0	88.7	78.7	72.1
72.5°	91.0	91.0	87.6	84.3	81.0	78.7	77.7	72.1	68.8	63.2	57.7
75°	68.8	68.8	67.7	64.3	62.1	59.9	58.8	54.4	51.0	45.5	42.2
77.5°	48.8	48.8	44.4	42.2	43.2	41.0	38.8	37.7	36.6	33.3	28.9
80°	28.9	27.7	24.4	25.5	24.4	24.4	23.3	22.2	19.9	17.7	15.5
82.5°	7.8	8.9	8.9	8.9	10.0	7.8	7.8	7.8	8.9	8.9	5.6
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.1
87.5°	1.1	2.2	4.4	4.4	4.4	4.4	4.4	3.3	3.3	3.3	2.2
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°	95°
0°	925.0	925.0	925.0	925.0	925.0	925.0	925.0	925.0	925.0	925.0	925.0
2.5°	936.2	935.0	936.2	928.4	946.1	932.8	930.6	928.4	936.2	928.4	917.3
5°	956.1	945.0	941.7	938.4	948.3	932.8	929.5	930.6	925.0	910.7	911.8
7.5°	962.8	952.8	942.8	921.7	930.6	927.3	918.4	911.8	902.9	890.7	888.5
10°	965.0	953.9	939.5	932.8	919.5	915.1	911.8	900.7	889.6	868.5	862.9
12.5°	958.3	945.0	927.3	921.7	911.8	897.3	889.6	878.5	868.5	851.9	839.7
15°	929.5	918.4	912.9	894.0	889.6	880.7	865.2	849.7	835.2	813.0	806.4
17.5°	896.2	891.8	886.2	871.8	870.7	861.9	847.4	834.1	815.3	780.9	769.8
20°	861.9	861.9	844.1	838.6	849.7	831.9	820.8	808.6	769.8	753.1	733.2
22.5°	836.4	824.1	814.1	805.3	806.4	795.3	779.8	755.4	740.9	721.0	697.7
25°	786.4	790.9	768.7	765.3	768.7	743.1	735.4	715.4	694.3	675.5	657.8
27.5°	755.4	743.1	728.8	716.5	716.5	706.6	684.4	680.0	647.8	630.0	607.8
30°	708.8	699.9	687.7	670.0	667.7	660.0	642.2	631.1	597.9	571.2	559.0
32.5°	650.0	646.7	636.7	616.7	610.1	601.2	579.0	560.1	544.6	514.6	500.3
35°	607.8	595.7	574.6	557.9	552.4	536.9	519.1	505.8	489.1	462.5	443.7
37.5°	544.6	532.4	512.4	492.5	492.5	477.0	452.6	439.3	416.0	400.4	384.9
40°	489.1	473.6	453.7	430.4	427.0	404.8	394.9	372.7	358.3	333.9	331.7
42.5°	427.0	412.6	394.9	377.1	363.8	352.7	327.2	310.6	295.1	282.9	279.5
45°	370.5	351.6	336.1	313.9	300.6	287.3	270.6	259.6	247.4	234.1	226.3
47.5°	321.7	306.1	283.9	264.0	250.7	244.0	225.1	213.0	203.0	194.1	188.6
50°	271.8	252.9	240.7	218.5	216.3	200.8	185.3	175.3	169.7	162.0	154.2
52.5°	234.1	216.3	199.6	183.0	174.1	168.6	154.2	144.2	136.5	130.9	126.5
55°	197.4	181.9	168.6	152.0	146.4	138.7	122.0	119.8	112.0	104.3	98.7
57.5°	169.7	155.3	139.8	128.7	118.7	113.2	99.8	91.0	86.5	79.9	74.3
60°	144.2	128.7	116.5	103.2	98.7	91.0	81.0	73.2	67.7	62.1	56.6
62.5°	120.9	107.6	94.3	83.2	76.5	72.1	64.3	57.7	52.1	47.7	43.2
65°	99.8	87.6	76.5	65.4	62.1	56.6	51.0	45.5	41.0	35.5	31.1
67.5°	82.1	71.0	59.9	52.1	48.8	46.6	39.9	34.4	31.1	27.7	23.3
70°	64.3	56.6	47.7	41.0	37.7	34.4	29.9	26.6	22.2	19.9	16.6
72.5°	49.9	43.2	35.5	29.9	27.7	25.5	21.1	17.7	15.5	13.3	11.1
75°	35.5	29.9	25.5	19.9	18.9	17.7	14.4	12.2	10.0	7.8	6.6
77.5°	24.4	19.9	15.5	13.3	12.2	10.0	8.9	6.6	5.6	4.4	3.3
80°	13.3	10.0	7.8	6.6	5.6	4.4	4.4	3.3	2.2	2.2	1.1
82.5°	4.4	3.3	2.2	1.1	1.1	1.1	1.1	1.1	1.1	0.0	1.1
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°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	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



TEST NUMBER: P#

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**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	925.0	925.0	925.0	925.0	925.0	925.0	925.0	925.0	925.0	925.0	925.0
2.5°	924.0	911.8	915.1	915.1	912.9	912.9	910.7	907.3	908.4	901.8	887.4
5°	914.0	898.5	896.2	898.5	889.6	887.4	882.9	889.6	869.6	877.4	868.5
7.5°	885.2	870.7	867.4	875.2	864.1	857.4	856.3	865.2	847.4	838.6	828.6
10°	853.0	847.4	837.4	831.9	828.6	829.7	820.8	809.7	806.4	804.2	795.3
12.5°	824.1	811.9	803.1	796.4	794.2	794.2	779.8	777.6	767.6	765.3	752.0
15°	789.7	775.3	769.8	760.9	753.1	757.6	740.9	736.5	733.2	718.8	721.0
17.5°	759.8	744.3	731.0	725.4	718.8	712.1	696.6	699.9	692.1	692.1	672.2
20°	721.0	704.3	694.3	683.3	683.3	674.4	663.3	664.4	654.4	644.5	626.7
22.5°	680.0	662.2	650.0	645.5	634.5	632.2	618.9	615.6	602.3	603.4	587.9
25°	636.7	618.9	602.3	603.4	593.4	589.0	581.2	565.7	560.1	553.5	549.1
27.5°	585.7	573.4	559.0	557.9	539.1	540.2	530.2	525.8	512.4	515.8	505.8
30°	539.1	521.3	508.0	504.7	496.9	494.7	479.2	472.5	474.8	465.8	460.3
32.5°	491.4	464.8	459.2	452.6	448.1	442.6	431.5	435.9	425.9	428.1	419.3
35°	428.1	417.0	402.6	402.6	398.2	393.8	386.0	390.5	380.5	376.0	367.2
37.5°	374.9	364.9	350.5	354.9	347.2	340.5	333.9	335.0	326.1	325.0	316.1
40°	317.2	311.7	301.7	301.7	296.2	296.2	292.8	289.5	283.9	277.3	267.3
42.5°	262.9	258.4	254.0	255.1	247.4	254.0	245.1	250.7	232.9	231.8	225.1
45°	222.9	213.0	214.1	209.6	205.2	207.4	199.6	201.9	191.9	189.7	183.0
47.5°	180.8	177.5	170.8	168.6	168.6	165.3	162.0	160.8	156.4	150.8	142.0
50°	148.6	136.5	134.2	130.9	128.7	128.7	124.2	117.6	118.7	113.2	104.3
52.5°	116.5	106.5	102.0	100.9	96.5	94.3	88.7	84.3	81.0	78.7	73.2
55°	89.8	81.0	75.4	75.4	68.8	68.8	61.0	57.7	53.2	48.8	45.5
57.5°	67.7	63.2	57.7	53.2	51.0	45.5	41.0	35.5	32.2	25.5	21.1
60°	51.0	46.6	41.0	37.7	35.5	29.9	24.4	19.9	12.2	10.0	8.9
62.5°	37.7	33.3	27.7	25.5	23.3	18.9	13.3	6.6	3.3	3.3	3.3
65°	27.7	22.2	17.7	15.5	13.3	10.0	4.4	2.2	1.1	1.1	1.1
67.5°	18.9	14.4	10.0	8.9	6.6	3.3	1.1	1.1	1.1	1.1	1.1
70°	12.2	8.9	4.4	3.3	2.2	1.1	1.1	1.1	1.1	1.1	1.1
72.5°	7.8	4.4	2.2	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	4.4	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	2.2	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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	1.1	1.1	1.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0





TEST NUMBER: P#

CATALOG NUMBER: LD4C20D010 EX4C209040 4LBSQLWWH

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	925.0	925.0	925.0	925.0	925.0	925.0	925.0	925.0
2.5°	902.9	895.1	899.5	889.6	894.0	901.8	896.2	898.5
5°	871.8	867.4	861.9	847.4	858.5	867.4	862.9	861.9
7.5°	838.6	823.0	830.8	826.4	824.1	833.0	823.0	834.1
10°	804.2	793.1	792.0	784.2	784.2	790.9	792.0	785.3
12.5°	753.1	747.6	747.6	746.5	745.4	752.0	753.1	749.8
15°	716.5	714.3	708.8	707.7	701.0	711.0	712.1	711.0
17.5°	672.2	673.3	667.7	667.7	672.2	675.5	666.6	675.5
20°	642.2	636.7	634.5	624.5	630.0	635.6	635.6	636.7
22.5°	599.0	590.1	593.4	587.9	584.5	592.3	592.3	595.7
25°	550.2	550.2	552.4	549.1	551.3	555.7	552.4	560.1
27.5°	503.6	508.0	508.0	503.6	505.8	519.1	524.6	515.8
30°	460.3	461.4	464.8	462.5	469.2	473.6	472.5	479.2
32.5°	411.5	417.0	419.3	416.0	418.2	428.1	422.6	421.5
35°	373.8	363.8	362.7	363.8	368.2	370.5	368.2	376.0
37.5°	319.4	316.1	311.7	312.8	316.1	320.6	322.8	328.3
40°	267.3	262.9	262.9	261.8	258.4	270.6	270.6	270.6
42.5°	221.8	220.7	215.2	215.2	219.6	222.9	220.7	228.5
45°	181.9	177.5	174.1	174.1	177.5	177.5	180.8	179.7
47.5°	143.1	138.7	139.8	136.5	139.8	144.2	138.7	139.8
50°	107.6	107.6	105.4	107.6	106.5	107.6	105.4	103.2
52.5°	73.2	83.2	84.3	79.9	69.9	61.0	55.4	59.9
55°	42.2	37.7	37.7	36.6	34.4	33.3	29.9	33.3
57.5°	21.1	18.9	18.9	18.9	17.7	16.6	14.4	14.4
60°	8.9	7.8	7.8	6.6	5.6	4.4	3.3	4.4
62.5°	3.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2
65°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
67.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
70°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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°	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



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















(END OF REPORT)