

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 EX4C209035 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 EX4C209035 4LBSQLWWH
Description: 4 INCH 2000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3500K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH H FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

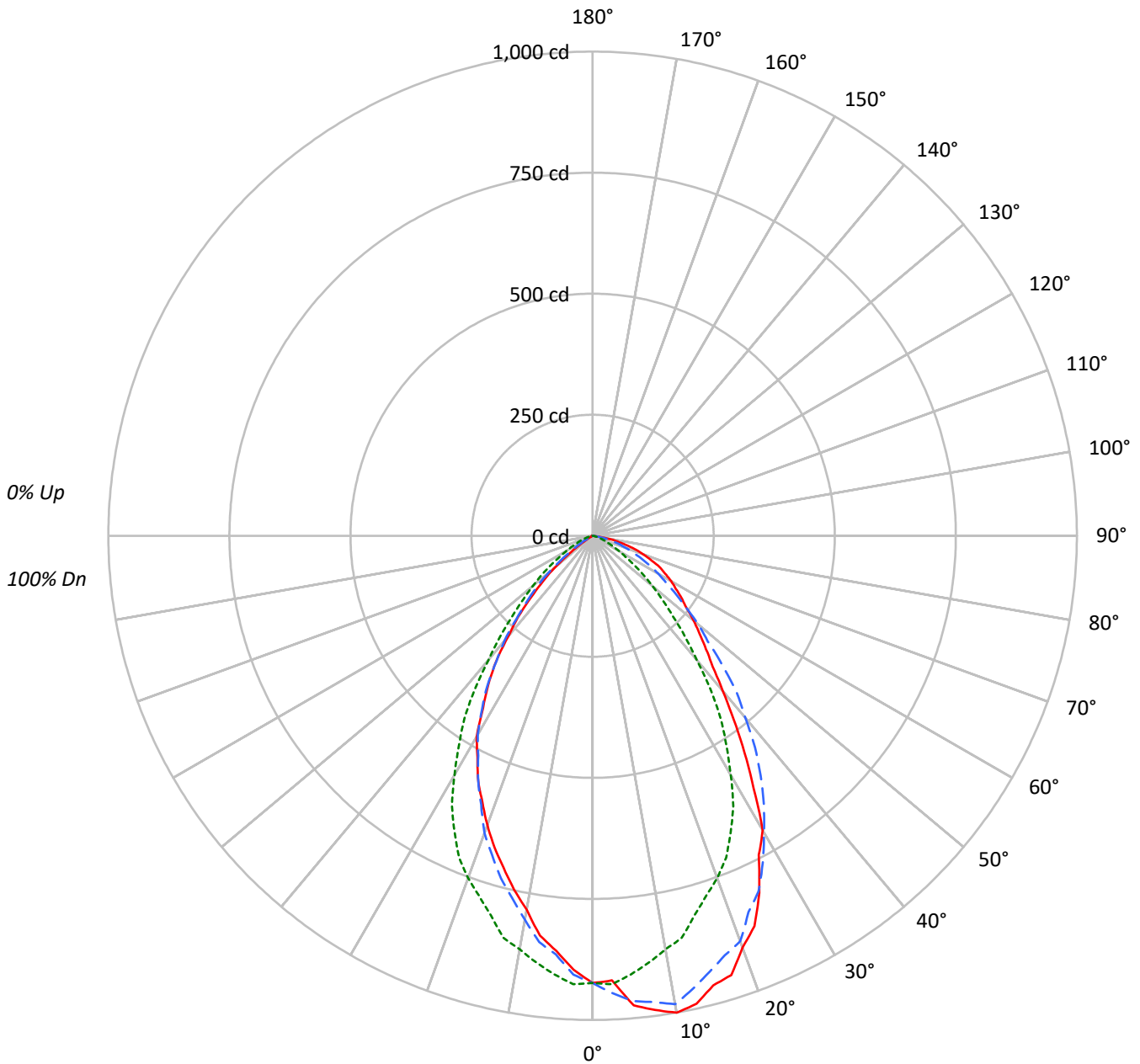
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1324.0 lumens
Efficiency: N/A
Efficacy: 60.7 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 (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					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	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90					90			
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	80					80			
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72					72			
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64					64			
5	85	75	67	62	83	74	67	62	72	66	61	70	65	60	68	64	60	58					58			
6	80	69	61	56	78	68	61	56	66	60	55	65	59	55	63	58	54	53					53			
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	48					48			
8	70	59	52	47	69	58	51	46	57	51	46	56	50	46	55	50	46	44					44			
9	66	55	48	43	65	54	47	43	53	47	43	52	46	42	51	46	42	41					41			
10	62	51	44	40	61	51	44	40	50	44	39	49	43	39	48	43	39	38					38			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	89127	89127	89127
5°	94291	88072	83356
10°	97987	84966	76824
15°	96027	81093	70914
20°	92916	77216	65275
25°	86661	71810	59545
30°	78236	63552	53312
35°	64444	54396	44231
40°	52587	41994	34034
45°	45194	31890	24480
50°	40890	24273	15461
55°	37632	17512	5585
60°	36125	11965	849
65°	34886	8105	251
70°	31230	5614	310
75°	25612	2908	0
80°	16003	1222	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.5	6.5
10°-20°	233.2	17.6
20°-30°	311.3	23.5
30°-40°	295.6	22.3
40°-50°	204.3	15.4
50°-60°	112.9	8.5
60°-70°	56.0	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°	631.0	47.7
0°-40°	926.6	70.0
0°-60°	1243.8	93.9
0°-90°	1324.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1324.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	924	924	924	924	924	
5°	974	965	909	868	861	93
15°	961	932	812	732	710	272
25°	814	811	674	559	559	371
35°	547	605	462	380	376	343
45°	331	380	234	192	179	258
55°	224	210	104	53	33	201
65°	153	111	36	1	1	148
75°	69	42	8	0	0	73
85°	0	1	0	0	0	6
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°	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7
2.5°	919.2	944.7	946.9	944.7	948.0	946.9	952.5	946.9	953.6	943.6	945.8
5°	973.5	963.5	984.6	973.5	973.5	972.4	969.1	968.0	972.4	958.0	964.7
7.5°	987.9	1002.3	1021.2	997.9	999.0	999.0	992.3	990.1	990.1	963.5	971.3
10°	1000.1	991.2	1001.2	992.3	1000.1	999.0	1003.4	989.0	999.0	983.5	982.4
12.5°	990.1	986.8	1000.1	985.7	981.3	982.4	976.8	973.5	976.8	959.1	958.0
15°	961.3	964.7	984.6	969.1	966.9	964.7	958.0	946.9	955.8	931.4	932.5
17.5°	951.4	945.8	949.2	935.8	939.2	937.0	935.8	925.9	923.7	908.2	908.2
20°	904.9	917.0	917.0	908.2	908.2	907.1	892.7	901.5	891.5	887.1	891.5
22.5°	872.7	873.8	873.8	866.1	867.2	862.8	855.0	849.5	855.0	849.5	840.6
25°	814.0	816.3	829.5	815.1	812.9	817.3	810.7	807.4	806.3	793.0	810.7
27.5°	743.1	765.3	764.2	758.6	765.3	756.4	753.1	754.2	757.6	756.4	760.9
30°	702.2	705.5	708.8	704.4	705.5	702.2	702.2	703.3	712.1	708.8	707.7
32.5°	619.1	630.2	639.1	639.1	640.1	643.5	642.4	665.6	671.2	660.1	657.9
35°	547.1	554.9	562.6	563.7	578.1	579.2	580.3	587.0	602.5	605.8	604.7
37.5°	478.5	486.2	488.4	498.4	506.1	513.9	522.8	531.6	544.9	556.0	550.5
40°	417.5	420.8	426.4	430.8	446.3	446.3	450.7	468.5	482.9	491.7	490.6
42.5°	366.6	367.7	372.1	379.9	394.3	390.9	394.3	406.5	427.5	428.6	440.8
45°	331.2	330.0	333.4	334.5	343.3	347.8	350.0	358.8	376.5	378.8	379.9
47.5°	299.0	297.9	303.5	305.7	309.0	313.4	313.4	314.5	321.2	326.7	322.3
50°	272.4	272.4	272.4	274.7	280.2	279.1	280.2	284.6	287.9	285.7	284.6
52.5°	243.6	248.1	251.4	252.5	253.6	253.6	254.7	252.5	251.4	248.1	241.4
55°	223.7	228.1	228.1	228.1	228.1	232.6	227.1	228.1	228.1	219.3	210.4
57.5°	203.8	208.2	211.5	207.1	211.5	207.1	204.9	203.8	201.5	192.7	179.4
60°	187.2	189.4	188.3	187.2	189.4	186.1	183.8	179.4	177.2	165.0	156.2
62.5°	168.4	169.4	170.6	168.4	166.1	165.0	160.6	153.9	149.5	139.5	131.8
65°	152.8	149.5	148.4	147.3	145.1	141.8	138.5	130.7	127.4	118.5	110.7
67.5°	129.6	128.5	130.7	127.4	121.8	121.8	118.5	111.9	104.1	98.6	90.8
70°	110.7	109.6	107.4	104.1	103.0	98.6	98.6	90.8	88.6	78.6	72.0
72.5°	90.8	90.8	87.5	84.2	80.8	78.6	77.5	72.0	68.7	63.1	57.6
75°	68.7	68.7	67.6	64.2	62.0	59.8	58.7	54.3	50.9	45.4	42.1
77.5°	48.7	48.7	44.3	42.1	43.2	41.0	38.7	37.7	36.5	33.2	28.8
80°	28.8	27.7	24.4	25.5	24.4	24.4	23.3	22.1	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°	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7
2.5°	934.8	933.6	934.8	927.0	944.7	931.4	929.2	927.0	934.8	927.0	915.9
5°	954.7	943.6	940.3	937.0	946.9	931.4	928.1	929.2	923.7	909.3	910.4
7.5°	961.3	951.4	941.4	920.4	929.2	925.9	917.0	910.4	901.5	889.3	887.1
10°	963.5	952.5	938.1	931.4	918.1	913.7	910.4	899.3	888.2	867.2	861.6
12.5°	956.9	943.6	925.9	920.4	910.4	896.0	888.2	877.1	867.2	850.6	838.4
15°	928.1	917.0	911.5	892.7	888.2	879.4	863.9	848.4	834.0	811.8	805.2
17.5°	894.9	890.5	884.9	870.5	869.4	860.6	846.2	832.8	814.0	779.7	768.6
20°	860.6	860.6	842.8	837.3	848.4	830.6	819.6	807.4	768.6	752.0	732.1
22.5°	835.1	822.9	812.9	804.1	805.2	794.1	778.6	754.2	739.8	719.9	696.6
25°	785.2	789.7	767.5	764.2	767.5	742.0	734.3	714.3	693.3	674.5	656.8
27.5°	754.2	742.0	727.7	715.5	715.5	705.5	683.4	678.9	646.8	629.1	606.9
30°	707.7	698.8	686.7	669.0	666.7	659.0	641.3	630.2	597.0	570.4	558.2
32.5°	649.0	645.7	635.7	615.8	609.2	600.3	578.1	559.3	543.8	513.9	499.5
35°	606.9	594.8	573.7	557.1	551.5	536.0	518.3	505.0	488.4	461.8	443.0
37.5°	543.8	531.6	511.7	491.7	491.7	476.3	451.9	438.6	415.3	399.8	384.3
40°	488.4	472.9	453.0	429.7	426.4	404.2	394.3	372.1	357.7	333.4	331.2
42.5°	426.4	412.0	394.3	376.5	363.3	352.2	326.7	310.1	294.6	282.4	279.1
45°	369.9	351.1	335.6	313.4	300.1	286.9	270.2	259.2	247.0	233.7	225.9
47.5°	321.2	305.7	283.5	263.6	250.3	243.6	224.8	212.7	202.7	193.8	188.3
50°	271.4	252.5	240.3	218.2	216.0	200.5	185.0	175.0	169.4	161.7	153.9
52.5°	233.7	216.0	199.3	182.8	173.9	168.4	153.9	144.0	136.2	130.7	126.3
55°	197.1	181.6	168.4	151.7	146.2	138.5	121.8	119.6	111.9	104.1	98.6
57.5°	169.4	155.0	139.5	128.5	118.5	113.0	99.7	90.8	86.4	79.8	74.2
60°	144.0	128.5	116.3	103.0	98.6	90.8	80.8	73.1	67.6	62.0	56.5
62.5°	120.7	107.4	94.2	83.0	76.4	72.0	64.2	57.6	52.1	47.6	43.2
65°	99.7	87.5	76.4	65.3	62.0	56.5	50.9	45.4	41.0	35.5	31.0
67.5°	82.0	70.9	59.8	52.1	48.7	46.5	39.9	34.3	31.0	27.7	23.3
70°	64.2	56.5	47.6	41.0	37.7	34.3	29.9	26.6	22.1	19.9	16.6
72.5°	49.9	43.2	35.5	29.9	27.7	25.5	21.0	17.7	15.5	13.3	11.1
75°	35.5	29.9	25.5	19.9	18.8	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



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7
2.5°	922.6	910.4	913.7	913.7	911.5	911.5	909.3	905.9	907.1	900.4	886.0
5°	912.6	897.1	894.9	897.1	888.2	886.0	881.6	888.2	868.3	876.1	867.2
7.5°	883.8	869.4	866.1	873.8	862.8	856.1	855.0	863.9	846.2	837.3	827.3
10°	851.7	846.2	836.2	830.6	827.3	828.4	819.6	808.5	805.2	802.9	794.1
12.5°	822.9	810.7	801.9	795.2	793.0	793.0	778.6	776.4	766.4	764.2	750.9
15°	788.5	774.2	768.6	759.8	752.0	756.4	739.8	735.4	732.1	717.7	719.9
17.5°	758.6	743.1	729.9	724.3	717.7	711.0	695.5	698.8	691.1	691.1	671.2
20°	719.9	703.3	693.3	682.2	682.2	673.4	662.3	663.4	653.4	643.5	625.7
22.5°	678.9	661.2	649.0	644.6	633.5	631.3	618.0	614.7	601.4	602.5	587.0
25°	635.7	618.0	601.4	602.5	592.5	588.1	580.3	564.9	559.3	552.7	548.2
27.5°	584.8	572.6	558.2	557.1	538.3	539.3	529.4	525.0	511.7	515.0	505.0
30°	538.3	520.6	507.2	503.9	496.2	494.0	478.5	471.8	474.0	465.1	459.6
32.5°	490.6	464.1	458.5	451.9	447.4	441.9	430.8	435.2	425.3	427.5	418.6
35°	427.5	416.4	402.0	402.0	397.6	393.2	385.4	389.9	379.9	375.5	366.6
37.5°	374.3	364.4	350.0	354.4	346.6	340.0	333.4	334.5	325.6	324.5	315.6
40°	316.8	311.2	301.3	301.3	295.7	295.7	292.4	289.1	283.5	276.9	266.9
42.5°	262.5	258.0	253.6	254.7	247.0	253.6	244.8	250.3	232.6	231.5	224.8
45°	222.6	212.7	213.7	209.3	204.9	207.1	199.3	201.5	191.6	189.4	182.8
47.5°	180.5	177.2	170.6	168.4	168.4	165.0	161.7	160.6	156.2	150.6	141.8
50°	148.4	136.2	134.0	130.7	128.5	128.5	124.1	117.4	118.5	113.0	104.1
52.5°	116.3	106.3	101.9	100.8	96.4	94.2	88.6	84.2	80.8	78.6	73.1
55°	89.7	80.8	75.3	75.3	68.7	68.7	60.9	57.6	53.2	48.7	45.4
57.5°	67.6	63.1	57.6	53.2	50.9	45.4	41.0	35.5	32.1	25.5	21.0
60°	50.9	46.5	41.0	37.7	35.5	29.9	24.4	19.9	12.2	10.0	8.9
62.5°	37.7	33.2	27.7	25.5	23.3	18.8	13.3	6.6	3.3	3.3	3.3
65°	27.7	22.1	17.7	15.5	13.3	10.0	4.4	2.2	1.1	1.1	1.1
67.5°	18.8	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 EX4C209035 4LBSQLWWH

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7
2.5°	901.5	893.8	898.2	888.2	892.7	900.4	894.9	897.1
5°	870.5	866.1	860.6	846.2	857.2	866.1	861.6	860.6
7.5°	837.3	821.8	829.5	825.1	822.9	831.8	821.8	832.8
10°	802.9	791.9	790.8	783.0	783.0	789.7	790.8	784.1
12.5°	752.0	746.5	746.5	745.4	744.2	750.9	752.0	748.7
15°	715.5	713.3	707.7	706.6	700.0	709.9	711.0	709.9
17.5°	671.2	672.2	666.7	666.7	671.2	674.5	665.6	674.5
20°	641.3	635.7	633.5	623.5	629.1	634.6	634.6	635.7
22.5°	598.1	589.2	592.5	587.0	583.6	591.4	591.4	594.8
25°	549.3	549.3	551.5	548.2	550.5	554.9	551.5	559.3
27.5°	502.8	507.2	507.2	502.8	505.0	518.3	523.9	515.0
30°	459.6	460.7	464.1	461.8	468.5	472.9	471.8	478.5
32.5°	410.9	416.4	418.6	415.3	417.5	427.5	422.0	420.8
35°	373.2	363.3	362.2	363.3	367.7	369.9	367.7	375.5
37.5°	319.0	315.6	311.2	312.3	315.6	320.1	322.3	327.8
40°	266.9	262.5	262.5	261.4	258.0	270.2	270.2	270.2
42.5°	221.5	220.4	214.9	214.9	219.3	222.6	220.4	228.1
45°	181.6	177.2	173.9	173.9	177.2	177.2	180.5	179.4
47.5°	142.9	138.5	139.5	136.2	139.5	144.0	138.5	139.5
50°	107.4	107.4	105.2	107.4	106.3	107.4	105.2	103.0
52.5°	73.1	83.0	84.2	79.8	69.8	60.9	55.4	59.8
55°	42.1	37.7	37.7	36.5	34.3	33.2	29.9	33.2
57.5°	21.0	18.8	18.8	18.8	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)