

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: **LD4C15D010 EX4C159040 4LBSQLWWLI**

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: LD4C15D010 EX4C159040 4LBSQLWWLI
Description: 4 INCH 1500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 4000K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH LI FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

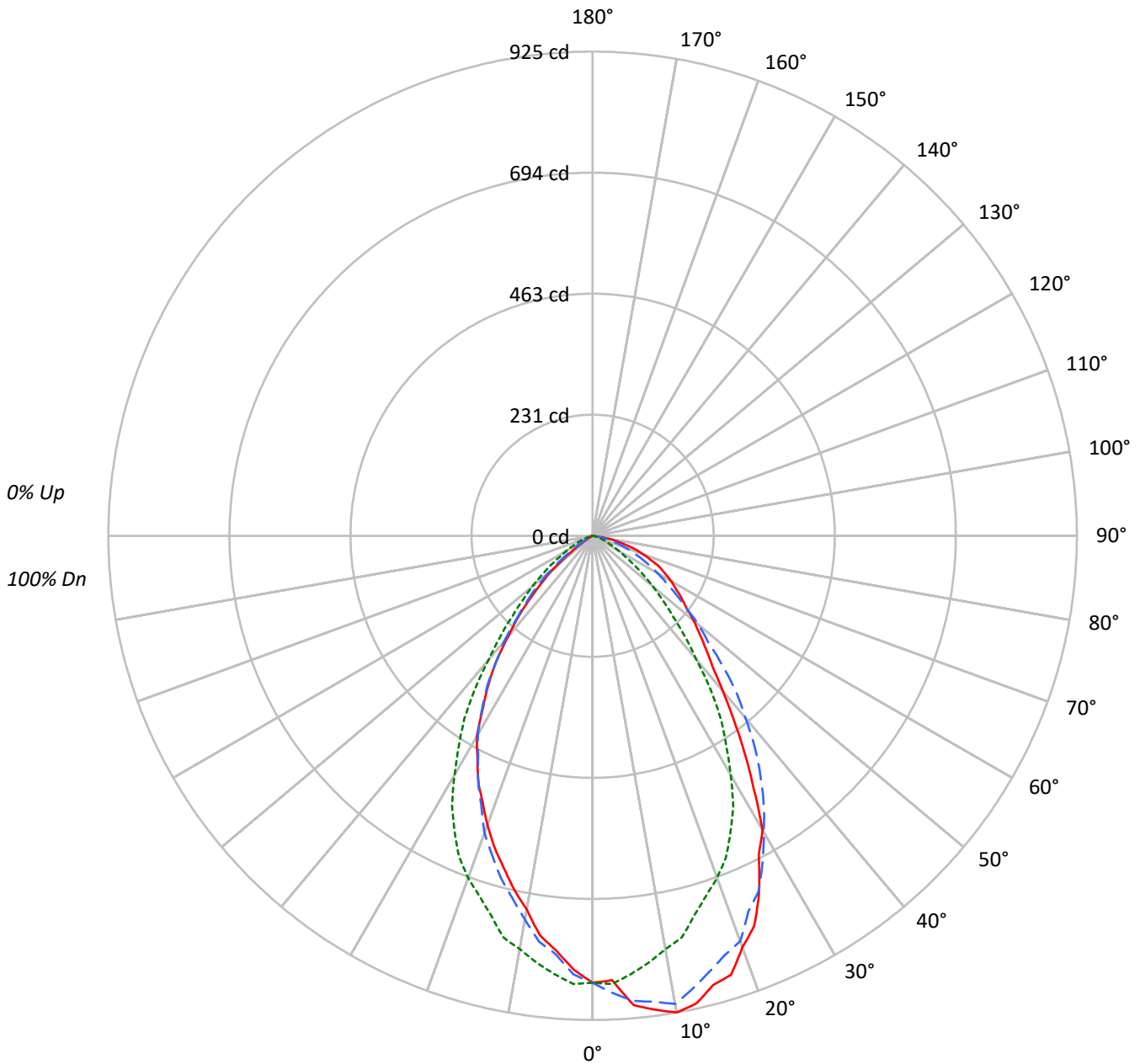
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1224.0 lumens
Efficiency: N/A
Efficacy: 77.5 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): 15.8
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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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	100	100	100
1	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90	90	90	90
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	80	80	80	80
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72	72	72	72
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64	64	64	64
5	85	75	67	62	83	74	67	62	72	66	61	70	65	60	68	64	60	58	58	58	58
6	80	69	61	56	78	68	61	56	66	60	55	65	59	55	63	58	54	53	53	53	53
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	48	48	48	48
8	70	59	52	47	69	58	51	46	57	51	46	56	50	46	55	50	46	44	44	44	44
9	66	55	48	43	65	54	47	43	53	47	43	52	46	42	51	46	42	41	41	41	41
10	62	51	44	40	61	51	44	40	50	44	39	49	43	39	48	43	39	38	38	38	38

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	82392	82392	82392
5°	87172	81418	77060
10°	90590	78548	71024
15°	88775	74969	65560
20°	85893	71384	60346
25°	80125	66380	55052
30°	72331	58750	49279
35°	59579	50297	40885
40°	48620	38820	31464
45°	41769	29474	22638
50°	37813	22441	14290
55°	34789	16183	5164
60°	33385	11058	791
65°	32261	7489	228
70°	28889	5191	282
75°	23673	2684	0
80°	14780	1111	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.0	6.5
10°-20°	215.5	17.6
20°-30°	287.8	23.5
30°-40°	273.2	22.3
40°-50°	188.9	15.4
50°-60°	104.4	8.5
60°-70°	51.8	4.2
70°-80°	20.4	1.7
80°-90°	1.9	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°	583.4	47.7
0°-40°	856.6	70.0
0°-60°	1149.8	93.9
0°-90°	1224.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1224.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	854	854	854	854	854	
5°	900	892	841	803	796	86
15°	889	862	750	677	656	251
25°	753	750	624	517	517	343
35°	506	559	427	351	347	317
45°	306	351	216	177	166	239
55°	207	194	96	49	31	186
65°	141	102	33	1	1	137
75°	64	39	7	0	0	68
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°	853.9	853.9	853.9	853.9	853.9	853.9	853.9	853.9	853.9	853.9	853.9
2.5°	849.8	873.3	875.4	873.3	876.4	875.4	880.5	875.4	881.6	872.3	874.4
5°	900.0	890.8	910.2	900.0	900.0	899.0	895.9	894.8	899.0	885.7	891.8
7.5°	913.3	926.6	944.0	922.5	923.5	923.5	917.4	915.3	915.3	890.8	897.9
10°	924.6	916.3	925.6	917.4	924.6	923.5	927.6	914.3	923.5	909.2	908.2
12.5°	915.3	912.3	924.6	911.3	907.2	908.2	903.1	900.0	903.1	886.7	885.7
15°	888.7	891.8	910.2	895.9	893.8	891.8	885.7	875.4	883.6	861.1	862.1
17.5°	879.5	874.4	877.5	865.2	868.3	866.2	865.2	856.0	853.9	839.6	839.6
20°	836.5	847.8	847.8	839.6	839.6	838.6	825.2	833.4	824.2	820.1	824.2
22.5°	806.8	807.8	807.8	800.7	801.7	797.6	790.4	785.3	790.4	785.3	777.1
25°	752.6	754.6	766.9	753.6	751.5	755.6	749.5	746.4	745.4	733.1	749.5
27.5°	687.0	707.5	706.5	701.3	707.5	699.3	696.2	697.2	700.3	699.3	703.4
30°	649.2	652.2	655.3	651.2	652.2	649.2	649.2	650.2	658.3	655.3	654.2
32.5°	572.3	582.6	590.8	590.8	591.8	594.9	593.8	615.3	620.5	610.2	608.2
35°	505.8	513.0	520.1	521.2	534.5	535.5	536.5	542.7	557.0	560.1	559.0
37.5°	442.3	449.5	451.5	460.7	467.9	475.1	483.3	491.5	503.7	514.0	508.9
40°	386.0	389.1	394.2	398.3	412.6	412.6	416.7	433.1	446.4	454.6	453.6
42.5°	338.9	339.9	344.0	351.2	364.5	361.4	364.5	375.8	395.2	396.2	407.5
45°	306.1	305.1	308.2	309.2	317.4	321.5	323.6	331.7	348.1	350.1	351.2
47.5°	276.5	275.4	280.6	282.6	285.6	289.7	289.7	290.8	296.9	302.1	298.0
50°	251.9	251.9	251.9	253.9	259.1	258.0	259.1	263.1	266.2	264.1	263.1
52.5°	225.2	229.3	232.4	233.5	234.5	234.5	235.5	233.5	232.4	229.3	223.2
55°	206.8	210.9	210.9	210.9	210.9	215.0	209.9	210.9	210.9	202.7	194.5
57.5°	188.4	192.5	195.6	191.5	195.6	191.5	189.4	188.4	186.3	178.1	165.9
60°	173.0	175.1	174.1	173.0	175.1	172.0	170.0	165.9	163.8	152.6	144.4
62.5°	155.6	156.6	157.7	155.6	153.6	152.6	148.5	142.3	138.2	129.0	121.8
65°	141.3	138.2	137.2	136.2	134.1	131.0	128.0	120.8	117.7	109.5	102.4
67.5°	119.8	118.8	120.8	117.7	112.6	112.6	109.5	103.4	96.2	91.1	84.0
70°	102.4	101.4	99.3	96.2	95.2	91.1	91.1	84.0	81.9	72.7	66.5
72.5°	84.0	84.0	80.9	77.8	74.7	72.7	71.7	66.5	63.5	58.4	53.2
75°	63.5	63.5	62.5	59.4	57.3	55.3	54.3	50.2	47.1	42.0	38.9
77.5°	45.0	45.0	41.0	38.9	39.9	37.9	35.8	34.8	33.8	30.7	26.6
80°	26.6	25.6	22.5	23.5	22.5	22.5	21.5	20.5	18.4	16.4	14.3
82.5°	7.2	8.2	8.2	8.2	9.2	7.2	7.2	7.2	8.2	8.2	5.1
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0
87.5°	1.0	2.0	4.1	4.1	4.1	4.1	4.1	3.1	3.1	3.1	2.0
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°	95°
0°	853.9	853.9	853.9	853.9	853.9	853.9	853.9	853.9	853.9	853.9	853.9
2.5°	864.2	863.1	864.2	857.0	873.3	861.1	859.0	857.0	864.2	857.0	846.8
5°	882.6	872.3	869.3	866.2	875.4	861.1	858.0	859.0	853.9	840.6	841.6
7.5°	888.7	879.5	870.3	850.8	859.0	856.0	847.8	841.6	833.4	822.2	820.1
10°	890.8	880.5	867.2	861.1	848.8	844.7	841.6	831.4	821.2	801.7	796.6
12.5°	884.6	872.3	856.0	850.8	841.6	828.3	821.2	810.9	801.7	786.3	775.1
15°	858.0	847.8	842.7	825.2	821.2	812.9	798.6	784.3	771.0	750.5	744.3
17.5°	827.3	823.2	818.1	804.8	803.7	795.6	782.2	769.9	752.6	720.8	710.6
20°	795.6	795.6	779.2	774.1	784.3	767.9	757.7	746.4	710.6	695.2	676.8
22.5°	772.0	760.7	751.5	743.3	744.3	734.1	719.8	697.2	683.9	665.5	644.0
25°	725.9	730.0	709.6	706.5	709.6	686.0	678.8	660.4	640.9	623.5	607.2
27.5°	697.2	686.0	672.7	661.4	661.4	652.2	631.7	627.7	597.9	581.6	561.1
30°	654.2	646.1	634.8	618.4	616.4	609.2	592.8	582.6	551.9	527.3	516.0
32.5°	600.0	596.9	587.7	569.3	563.1	554.9	534.5	517.1	502.7	475.1	461.8
35°	561.1	549.8	530.4	515.0	509.9	495.6	479.2	466.9	451.5	427.0	409.6
37.5°	502.7	491.5	473.0	454.6	454.6	440.3	417.7	405.5	384.0	369.6	355.3
40°	451.5	437.2	418.8	397.3	394.2	373.7	364.5	344.0	330.7	308.2	306.1
42.5°	394.2	380.9	364.5	348.1	335.8	325.6	302.1	286.7	272.4	261.1	258.0
45°	342.0	324.6	310.2	289.7	277.5	265.2	249.8	239.6	228.3	216.0	208.9
47.5°	296.9	282.6	262.1	243.7	231.4	225.2	207.8	196.6	187.4	179.2	174.1
50°	250.9	233.5	222.2	201.7	199.6	185.3	171.0	161.8	156.6	149.5	142.3
52.5°	216.0	199.6	184.3	169.0	160.7	155.6	142.3	133.1	126.0	120.8	116.7
55°	182.2	167.9	155.6	140.3	135.1	128.0	112.6	110.6	103.4	96.2	91.1
57.5°	156.6	143.3	129.0	118.8	109.5	104.5	92.1	84.0	79.9	73.7	68.6
60°	133.1	118.8	107.5	95.2	91.1	84.0	74.7	67.6	62.5	57.3	52.2
62.5°	111.6	99.3	87.0	76.8	70.6	66.5	59.4	53.2	48.1	44.0	39.9
65°	92.1	80.9	70.6	60.4	57.3	52.2	47.1	42.0	37.9	32.8	28.7
67.5°	75.8	65.5	55.3	48.1	45.0	43.0	36.9	31.7	28.7	25.6	21.5
70°	59.4	52.2	44.0	37.9	34.8	31.7	27.6	24.6	20.5	18.4	15.4
72.5°	46.1	39.9	32.8	27.6	25.6	23.5	19.5	16.4	14.3	12.3	10.2
75°	32.8	27.6	23.5	18.4	17.4	16.4	13.3	11.3	9.2	7.2	6.1
77.5°	22.5	18.4	14.3	12.3	11.3	9.2	8.2	6.1	5.1	4.1	3.1
80°	12.3	9.2	7.2	6.1	5.1	4.1	4.1	3.1	2.0	2.0	1.0
82.5°	4.1	3.1	2.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0
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°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	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



TEST NUMBER: P#

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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	853.9	853.9	853.9	853.9	853.9	853.9	853.9	853.9	853.9	853.9	853.9
2.5°	852.9	841.6	844.7	844.7	842.7	842.7	840.6	837.5	838.6	832.4	819.1
5°	843.7	829.3	827.3	829.3	821.2	819.1	815.0	821.2	802.7	809.9	801.7
7.5°	817.1	803.7	800.7	807.8	797.6	791.4	790.4	798.6	782.2	774.1	764.8
10°	787.3	782.2	773.0	767.9	764.8	765.8	757.7	747.4	744.3	742.3	734.1
12.5°	760.7	749.5	741.3	735.2	733.1	733.1	719.8	717.7	708.5	706.5	694.2
15°	729.0	715.7	710.6	702.4	695.2	699.3	683.9	679.8	676.8	663.5	665.5
17.5°	701.3	687.0	674.7	669.6	663.5	657.3	643.0	646.1	638.9	638.9	620.5
20°	665.5	650.2	640.9	630.7	630.7	622.5	612.3	613.3	604.1	594.9	578.5
22.5°	627.7	611.2	600.0	595.9	585.7	583.6	571.3	568.2	556.0	557.0	542.7
25°	587.7	571.3	556.0	557.0	547.8	543.7	536.5	522.2	517.1	510.9	506.8
27.5°	540.6	529.3	516.0	515.0	497.6	498.6	489.4	485.3	473.0	476.1	466.9
30°	497.6	481.2	468.9	465.9	458.7	456.6	442.3	436.2	438.2	430.0	424.9
32.5°	453.6	429.0	423.9	417.7	413.6	408.5	398.3	402.4	393.1	395.2	387.0
35°	395.2	385.0	371.6	371.6	367.6	363.5	356.3	360.4	351.2	347.1	338.9
37.5°	346.1	336.9	323.6	327.6	320.5	314.3	308.2	309.2	301.0	300.0	291.8
40°	292.8	287.7	278.5	278.5	273.4	273.4	270.3	267.2	262.1	256.0	246.7
42.5°	242.6	238.6	234.5	235.5	228.3	234.5	226.3	231.4	215.0	214.0	207.8
45°	205.8	196.6	197.6	193.5	189.4	191.5	184.3	186.3	177.1	175.1	169.0
47.5°	166.9	163.8	157.7	155.6	155.6	152.6	149.5	148.5	144.4	139.2	131.0
50°	137.2	126.0	123.9	120.8	118.8	118.8	114.7	108.5	109.5	104.5	96.2
52.5°	107.5	98.3	94.2	93.2	89.1	87.0	81.9	77.8	74.7	72.7	67.6
55°	82.9	74.7	69.6	69.6	63.5	63.5	56.3	53.2	49.1	45.0	42.0
57.5°	62.5	58.4	53.2	49.1	47.1	42.0	37.9	32.8	29.7	23.5	19.5
60°	47.1	43.0	37.9	34.8	32.8	27.6	22.5	18.4	11.3	9.2	8.2
62.5°	34.8	30.7	25.6	23.5	21.5	17.4	12.3	6.1	3.1	3.1	3.1
65°	25.6	20.5	16.4	14.3	12.3	9.2	4.1	2.0	1.0	1.0	1.0
67.5°	17.4	13.3	9.2	8.2	6.1	3.1	1.0	1.0	1.0	1.0	1.0
70°	11.3	8.2	4.1	3.1	2.0	1.0	1.0	1.0	1.0	1.0	1.0
72.5°	7.2	4.1	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	4.1	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	1.0	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	1.0	1.0	1.0
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#

CATALOG NUMBER: LD4C15D010 EX4C159040 4LBSQLWWLI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	853.9	853.9	853.9	853.9	853.9	853.9	853.9	853.9
2.5°	833.4	826.3	830.3	821.2	825.2	832.4	827.3	829.3
5°	804.8	800.7	795.6	782.2	792.5	800.7	796.6	795.6
7.5°	774.1	759.7	766.9	762.8	760.7	768.9	759.7	769.9
10°	742.3	732.1	731.1	723.9	723.9	730.0	731.1	724.9
12.5°	695.2	690.1	690.1	689.1	688.0	694.2	695.2	692.2
15°	661.4	659.4	654.2	653.2	647.1	656.3	657.3	656.3
17.5°	620.5	621.5	616.4	616.4	620.5	623.5	615.3	623.5
20°	592.8	587.7	585.7	576.4	581.6	586.7	586.7	587.7
22.5°	552.9	544.7	547.8	542.7	539.6	546.7	546.7	549.8
25°	507.8	507.8	509.9	506.8	508.9	513.0	509.9	517.1
27.5°	464.8	468.9	468.9	464.8	466.9	479.2	484.3	476.1
30°	424.9	425.9	429.0	427.0	433.1	437.2	436.2	442.3
32.5°	379.9	385.0	387.0	384.0	386.0	395.2	390.1	389.1
35°	345.1	335.8	334.8	335.8	339.9	342.0	339.9	347.1
37.5°	294.9	291.8	287.7	288.7	291.8	295.9	298.0	303.1
40°	246.7	242.6	242.6	241.6	238.6	249.8	249.8	249.8
42.5°	204.8	203.7	198.6	198.6	202.7	205.8	203.7	210.9
45°	167.9	163.8	160.7	160.7	163.8	163.8	166.9	165.9
47.5°	132.1	128.0	129.0	126.0	129.0	133.1	128.0	129.0
50°	99.3	99.3	97.3	99.3	98.3	99.3	97.3	95.2
52.5°	67.6	76.8	77.8	73.7	64.5	56.3	51.2	55.3
55°	38.9	34.8	34.8	33.8	31.7	30.7	27.6	30.7
57.5°	19.5	17.4	17.4	17.4	16.4	15.4	13.3	13.3
60°	8.2	7.2	7.2	6.1	5.1	4.1	3.1	4.1
62.5°	3.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0
65°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
67.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
70°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)