

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: NEO-RAY

Report Number: P332628-935

Luminaire Tested: **S124DIP-S1020D365U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332628-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S1020D365U935-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4883.4 lumens
Efficiency: N/A
Efficacy: 112.3 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

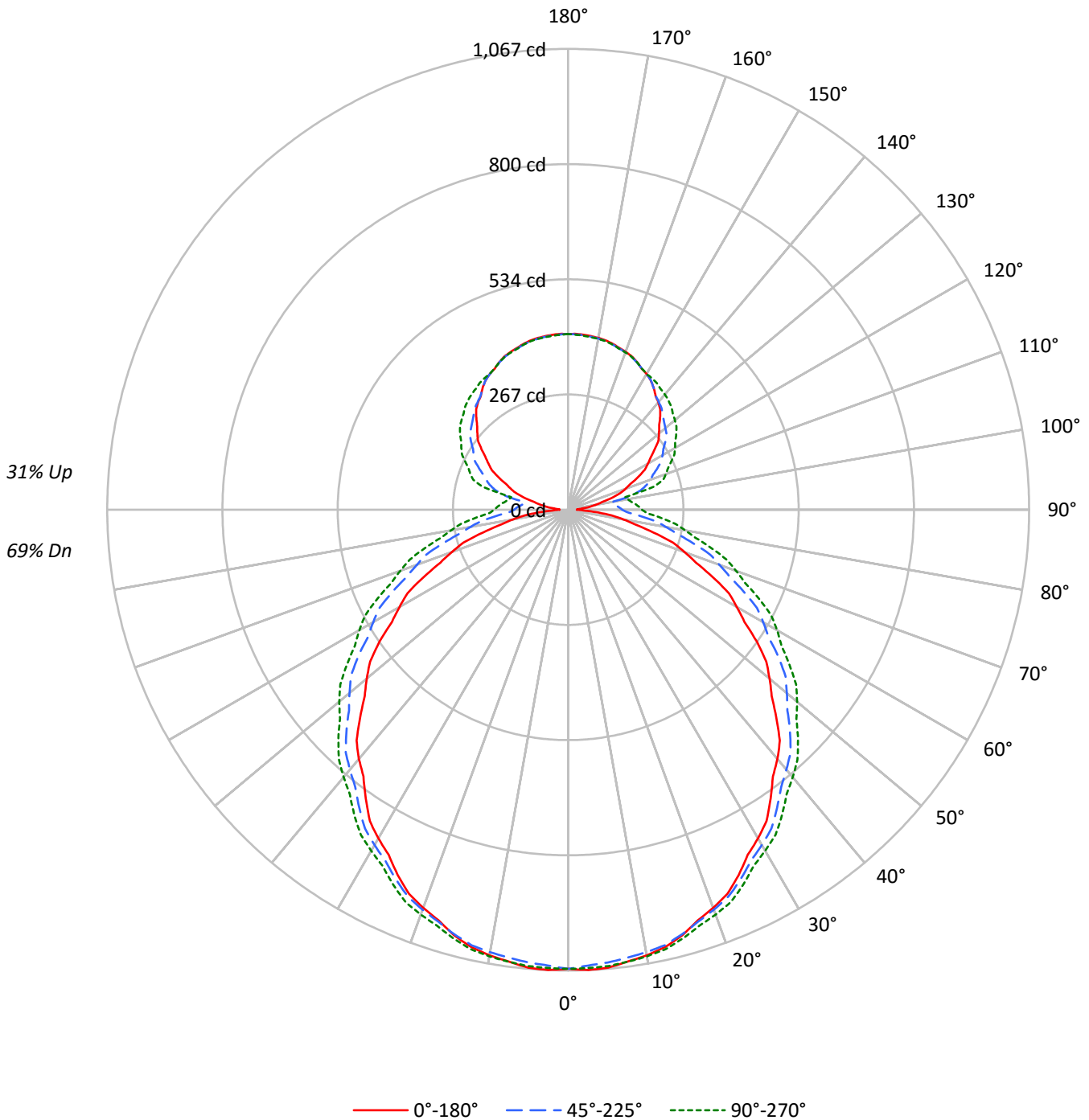
Input Watts (W): 43.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332628-935

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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	0
RCR																		
0	112	112	112	112	105	105	105	105	94	94	94	83	83	83	73	73	73	69
1	101	96	91	87	95	90	86	83	80	77	74	71	69	66	63	61	59	55
2	91	83	76	70	85	78	72	67	69	65	60	62	58	54	54	51	49	45
3	83	72	64	58	78	68	61	55	61	55	50	54	49	45	48	44	41	37
4	75	64	55	48	71	60	52	46	54	47	42	48	43	39	42	38	35	32
5	69	57	48	41	65	54	46	40	48	41	36	43	37	33	38	34	30	27
6	64	51	42	36	60	48	40	34	43	37	32	39	33	29	34	30	26	24
7	59	46	37	31	55	44	36	30	39	33	28	35	30	26	31	27	23	21
8	55	42	33	28	51	40	32	27	36	29	25	32	27	23	29	24	21	19
9	51	38	30	25	48	36	29	24	33	26	22	30	24	20	26	22	19	17
10	48	35	27	22	45	33	26	21	30	24	20	27	22	18	25	20	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8582	8582	8582
5°	8608	8387	8412
10°	8556	8250	8244
15°	8479	8091	8047
20°	8364	7916	7856
25°	8233	7719	7645
30°	8093	7524	7428
35°	7933	7324	7239
40°	7804	7134	7041
45°	7615	6958	6871
50°	7455	6755	6692
55°	7289	6565	6482
60°	7031	6322	6290
65°	6747	6061	6055
70°	6405	5763	5780
75°	5924	5435	5533
80°	5397	5119	5288
85°	4721	4842	5146



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.7	2.1
10°-20°	288.4	5.9
20°-30°	436.1	8.9
30°-40°	527.7	10.8
40°-50°	557.9	11.4
50°-60°	525.0	10.8
60°-70°	435.6	8.9
70°-80°	306.0	6.3
80°-90°	174.2	3.6
90°-100°	116.6	2.4
100°-110°	164.7	3.4
110°-120°	220.7	4.5
120°-130°	244.2	5.0
130°-140°	243.0	5.0
140°-150°	218.1	4.5
150°-160°	173.8	3.6
160°-170°	112.1	2.3
170°-180°	38.6	0.8
0°-30°	825.2	16.9
0°-40°	1352.9	27.7
0°-60°	2435.8	49.9
0°-90°	3351.5	68.6
90°-120°	502.1	10.3
90°-150°	1207.4	24.7
90°-180°	1532.0	31.4
0°-180°	4883.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1063	1063	1063	1063	1063	
5°	1064	1060	1052	1061	1061	101
15°	1020	1021	1018	1028	1027	287
25°	933	940	944	956	958	430
35°	817	831	843	859	863	511
45°	681	704	726	746	752	526
55°	533	559	594	617	625	475
65°	369	407	448	476	487	366
75°	205	249	299	331	343	218
85°	63	113	167	201	214	67
90°	20	71	125	159	171	13
95°	32	62	110	143	155	34
105°	102	129	174	204	205	108
115°	178	191	228	253	263	176
125°	245	247	274	297	305	219
135°	301	301	310	329	337	232
145°	345	345	345	352	358	216
155°	377	377	376	378	377	174
165°	398	396	396	398	396	112
175°	407	405	405	408	404	39
180°	407	407	407	407	407	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1
2.5°	1066.9	1066.3	1065.6	1065.0	1064.3	1063.2	1061.4	1059.8	1058.1	1056.4	1057.8
5°	1064.2	1063.4	1062.6	1061.9	1061.1	1059.7	1057.9	1056.0	1054.2	1052.3	1054.5
7.5°	1055.2	1054.7	1054.2	1053.8	1053.3	1052.3	1050.8	1049.2	1047.7	1046.1	1048.5
10°	1047.6	1047.3	1047.1	1046.8	1046.5	1045.7	1044.4	1043.1	1041.7	1040.4	1042.8
12.5°	1037.1	1037.1	1037.0	1036.9	1036.9	1036.4	1035.5	1034.6	1033.7	1032.8	1035.0
15°	1020.2	1020.5	1020.7	1021.0	1021.2	1021.0	1020.2	1019.4	1018.6	1017.8	1020.2
17.5°	997.1	997.9	998.7	999.4	1000.3	1000.6	1000.4	1000.3	1000.1	1000.0	1002.4
20°	980.9	981.7	982.5	983.3	984.1	984.6	984.9	985.2	985.4	985.7	988.3
22.5°	962.8	963.8	964.8	965.9	966.8	967.6	968.0	968.5	969.0	969.5	972.2
25°	933.3	934.9	936.4	938.1	939.6	940.8	941.6	942.5	943.2	944.0	946.9
27.5°	900.4	902.8	905.1	907.4	909.7	911.5	912.7	914.0	915.2	916.4	919.1
30°	878.6	880.6	882.8	884.8	887.0	889.0	890.8	892.7	894.5	896.4	899.3
32.5°	854.7	857.3	859.8	862.4	864.9	867.2	869.3	871.3	873.4	875.5	878.7
35°	816.7	819.8	822.9	826.1	829.3	832.2	834.9	837.5	840.2	842.8	846.5
37.5°	778.3	782.0	785.6	789.3	792.9	796.3	799.6	802.9	806.2	809.5	813.2
40°	753.5	757.0	760.4	763.9	767.3	770.9	774.6	778.3	782.0	785.7	789.6
42.5°	725.0	728.8	732.7	736.6	740.4	744.5	748.8	753.2	757.5	761.9	766.3
45°	680.9	686.0	691.0	696.0	701.0	706.0	711.1	716.1	721.1	726.2	730.6
47.5°	638.8	643.9	649.1	654.4	659.5	665.0	670.8	676.7	682.5	688.3	692.9
50°	608.3	614.2	619.9	625.8	631.5	637.4	643.3	649.0	654.9	660.6	666.0
52.5°	577.8	583.7	589.4	595.3	601.2	607.3	614.0	620.7	627.3	634.0	639.3
55°	533.3	538.9	544.4	550.0	555.5	562.2	570.2	578.2	586.1	594.0	599.3
57.5°	483.5	490.4	497.3	504.2	511.1	518.4	526.3	534.3	542.1	550.0	556.3
60°	451.2	458.1	464.9	471.8	478.7	486.5	495.2	503.9	512.6	521.4	527.4
62.5°	419.7	427.2	434.8	442.3	449.8	457.9	466.7	475.4	484.1	492.8	498.9
65°	369.0	377.5	386.0	394.4	402.9	411.6	420.6	429.6	438.6	447.6	454.2
67.5°	320.2	329.2	338.2	347.2	356.2	365.5	375.1	384.8	394.4	404.1	410.8
70°	286.9	295.9	304.9	313.8	322.9	332.4	342.4	352.5	362.6	372.6	379.8
72.5°	254.5	263.7	272.9	282.1	291.4	301.3	311.9	322.6	333.4	344.1	350.9
75°	204.7	214.6	224.3	234.1	243.9	254.3	265.4	276.6	287.7	298.8	306.2
77.5°	158.3	168.7	179.1	189.4	199.8	210.8	222.5	234.1	245.7	257.4	264.8
80°	129.8	140.3	150.9	161.5	172.1	183.2	194.8	206.5	218.1	229.7	237.7
82.5°	101.2	112.2	123.2	134.2	145.2	156.5	168.2	179.8	191.5	203.1	211.2
85°	63.1	74.2	85.3	96.4	107.5	119.1	131.0	142.8	154.7	166.7	174.6
87.5°	35.4	46.3	57.3	68.3	79.2	90.5	102.2	113.9	125.6	137.2	145.1
90°	20.0	31.3	42.6	53.9	65.3	76.9	88.8	100.7	112.6	124.6	132.6
92.5°	22.0	31.5	41.1	50.6	60.2	70.9	82.8	94.8	106.7	118.6	126.5
95°	32.2	38.7	45.0	51.5	57.9	66.6	77.5	88.4	99.4	110.3	117.8
97.5°	49.6	58.5	67.5	76.5	85.4	91.4	94.6	97.8	101.0	104.2	111.2
100°	63.0	71.1	79.2	87.3	95.4	99.9	100.9	101.9	102.9	103.8	109.9
102.5°	79.0	86.0	92.9	99.9	106.8	114.7	123.6	132.4	141.3	150.2	144.7
105°	102.3	108.0	113.7	119.4	125.1	133.0	143.1	153.3	163.4	173.5	180.7
107.5°	125.9	130.4	134.9	139.5	144.0	151.2	160.8	170.6	180.3	190.0	196.8
110°	140.9	144.9	148.8	152.7	156.6	163.4	173.1	182.7	192.3	202.1	208.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	155.6	159.3	162.9	166.5	170.2	176.5	185.5	194.6	203.6	212.6	218.4
115°	178.1	180.7	183.3	185.9	188.5	194.0	202.3	210.8	219.2	227.6	233.5
117.5°	199.5	201.2	202.9	204.6	206.3	211.2	219.2	227.2	235.3	243.3	248.7
120°	213.2	214.2	215.3	216.4	217.4	221.8	229.4	236.9	244.6	252.2	257.6
122.5°	226.8	227.1	227.5	227.7	228.1	232.0	239.3	246.6	253.9	261.3	266.7
125°	245.1	245.1	245.1	245.1	245.2	248.4	254.9	261.4	267.9	274.3	279.6
127.5°	263.4	263.2	263.0	262.9	262.6	265.2	270.6	276.0	281.4	286.8	291.5
130°	274.4	274.2	274.0	273.8	273.6	275.7	280.2	284.6	289.0	293.4	298.3
132.5°	285.3	285.2	285.1	284.9	284.7	286.5	290.2	293.8	297.5	301.1	305.7
135°	300.6	300.5	300.5	300.4	300.3	301.4	303.5	305.6	307.7	309.8	314.2
137.5°	315.1	314.9	314.7	314.4	314.2	314.7	315.8	317.0	318.2	319.4	323.5
140°	324.6	324.5	324.3	324.3	324.1	324.3	324.7	325.0	325.5	325.8	329.5
142.5°	332.2	332.3	332.6	332.8	332.9	333.0	332.9	332.9	332.8	332.7	335.9
145°	345.0	345.0	344.9	344.8	344.8	344.7	344.7	344.7	344.7	344.7	346.4
147.5°	355.4	355.6	355.7	355.8	355.9	355.9	355.9	355.8	355.7	355.7	355.9
150°	363.0	363.0	363.0	363.0	363.0	363.0	362.9	362.8	362.7	362.7	362.7
152.5°	368.3	368.5	368.7	368.9	369.0	369.0	368.9	368.8	368.7	368.6	368.7
155°	377.0	377.1	377.1	377.2	377.3	377.2	377.0	376.8	376.6	376.4	376.7
157.5°	384.5	384.4	384.4	384.4	384.4	384.2	384.0	383.7	383.5	383.3	383.7
160°	388.9	388.7	388.5	388.3	388.1	388.0	387.9	387.8	387.7	387.6	388.1
162.5°	392.8	392.5	392.3	392.0	391.8	391.6	391.5	391.4	391.4	391.3	391.8
165°	397.7	397.4	397.0	396.7	396.3	396.1	396.1	396.1	396.1	396.1	396.7
167.5°	401.6	401.2	400.9	400.5	400.2	400.0	399.9	399.9	399.8	399.8	400.5
170°	403.8	403.4	402.9	402.6	402.2	402.0	402.1	402.2	402.2	402.3	402.8
172.5°	405.3	404.8	404.4	404.1	403.6	403.5	403.6	403.6	403.6	403.7	404.2
175°	406.8	406.4	406.0	405.6	405.2	405.0	405.1	405.2	405.3	405.3	406.0
177.5°	407.6	407.2	406.8	406.4	406.0	405.9	406.0	406.1	406.2	406.3	406.8
180°	406.8	406.8	406.8	406.8	406.8	406.8	406.8	406.8	406.8	406.8	406.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1
2.5°	1059.4	1060.8	1062.3	1062.9	1062.7	1062.5	1062.3	1062.1
5°	1056.5	1058.7	1060.8	1061.7	1061.4	1061.2	1060.9	1060.7
7.5°	1050.9	1053.3	1055.7	1056.7	1056.4	1056.2	1055.9	1055.7
10°	1045.2	1047.6	1050.0	1051.0	1050.8	1050.5	1050.2	1050.0
12.5°	1037.2	1039.3	1041.5	1042.6	1042.5	1042.4	1042.4	1042.3
15°	1022.6	1024.9	1027.3	1028.4	1028.1	1027.9	1027.6	1027.3
17.5°	1004.8	1007.3	1009.7	1010.8	1010.6	1010.4	1010.1	1010.0
20°	990.9	993.6	996.3	997.6	997.6	997.6	997.6	997.6
22.5°	974.7	977.4	980.1	981.6	982.1	982.4	982.8	983.3
25°	949.9	952.7	955.6	957.3	957.5	957.8	958.0	958.3
27.5°	921.8	924.5	927.2	928.7	929.0	929.4	929.6	930.0
30°	902.2	905.1	908.0	909.7	910.2	910.8	911.4	911.9
32.5°	882.1	885.5	888.8	890.7	891.2	891.7	892.3	892.9
35°	850.2	853.9	857.6	859.9	860.7	861.4	862.3	863.1
37.5°	817.0	820.8	824.5	826.8	827.7	828.5	829.3	830.2
40°	793.6	797.5	801.6	804.1	805.1	806.2	807.3	808.3
42.5°	770.7	775.1	779.5	782.0	782.9	783.8	784.6	785.4
45°	735.1	739.7	744.2	747.1	748.4	749.7	751.1	752.3
47.5°	697.6	702.2	707.0	710.1	711.6	713.3	714.8	716.4
50°	671.2	676.6	681.8	685.3	686.9	688.5	690.0	691.6
52.5°	644.6	649.9	655.2	658.6	660.2	661.8	663.4	665.0
55°	604.6	609.9	615.2	618.6	620.2	621.8	623.4	625.0
57.5°	562.6	568.9	575.1	579.0	580.5	582.0	583.5	585.0
60°	533.6	539.7	545.7	549.8	552.0	554.1	556.2	558.3
62.5°	505.0	511.1	517.2	521.2	523.4	525.5	527.6	529.8
65°	460.8	467.4	474.1	478.5	480.5	482.7	484.7	486.9
67.5°	417.5	424.2	430.9	435.3	437.4	439.5	441.5	443.6
70°	386.8	394.0	401.1	405.7	407.5	409.4	411.2	413.1
72.5°	357.9	364.8	371.8	376.3	378.3	380.4	382.5	384.5
75°	313.6	321.0	328.4	333.3	335.7	338.1	340.4	342.9
77.5°	272.4	279.9	287.4	292.5	295.0	297.6	300.1	302.6
80°	245.6	253.6	261.5	266.5	268.6	270.8	272.9	275.0
82.5°	219.4	227.6	235.7	240.9	243.2	245.6	247.9	250.2
85°	182.5	190.5	198.4	203.7	206.4	209.0	211.6	214.3
87.5°	152.8	160.6	168.3	173.3	175.7	178.1	180.4	182.8
90°	140.7	148.8	156.9	162.0	164.3	166.5	168.8	171.0
92.5°	134.3	142.2	150.1	155.1	157.2	159.4	161.5	163.6
95°	125.4	132.9	140.4	145.4	147.9	150.3	152.8	155.2
97.5°	118.1	125.1	132.1	136.7	139.1	141.5	143.8	146.1
100°	115.8	121.8	127.9	131.8	133.7	135.6	137.6	139.5
102.5°	139.3	133.8	128.4	126.7	128.7	130.8	132.9	134.9
105°	188.0	195.2	202.4	205.9	205.5	205.2	204.9	204.6
107.5°	203.6	210.4	217.2	221.7	223.9	226.1	228.3	230.4
110°	214.5	220.7	227.0	231.2	233.5	235.8	238.2	240.5



TEST NUMBER: P332628-935

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	224.3	230.1	236.0	240.1	242.5	244.9	247.2	249.6
115°	239.4	245.5	251.4	255.3	257.2	259.0	260.9	262.7
117.5°	254.3	259.8	265.2	269.0	271.0	273.2	275.3	277.3
120°	263.0	268.5	273.9	277.6	279.6	281.5	283.5	285.5
122.5°	272.1	277.4	282.8	286.4	288.1	289.9	291.6	293.4
125°	284.8	290.0	295.2	298.7	300.3	302.0	303.7	305.3
127.5°	296.2	300.9	305.7	308.9	310.6	312.4	314.1	315.9
130°	303.2	308.0	312.8	316.0	317.5	319.2	320.7	322.4
132.5°	310.3	315.0	319.6	322.6	324.2	325.7	327.3	328.7
135°	318.6	323.0	327.3	330.4	332.1	333.8	335.5	337.3
137.5°	327.4	331.5	335.5	338.1	339.4	340.7	342.0	343.3
140°	333.1	336.7	340.4	342.9	344.3	345.7	347.1	348.4
142.5°	339.1	342.2	345.3	347.5	348.6	349.7	350.9	352.0
145°	348.1	349.7	351.4	352.8	354.0	355.2	356.4	357.6
147.5°	356.2	356.5	356.7	357.3	358.3	359.1	360.1	360.9
150°	362.7	362.7	362.7	362.7	362.8	362.9	362.9	363.0
152.5°	368.8	368.9	369.0	369.0	368.9	368.9	368.9	368.9
155°	376.9	377.2	377.5	377.5	377.3	377.1	376.9	376.7
157.5°	384.0	384.4	384.7	384.7	384.4	384.0	383.7	383.3
160°	388.5	388.9	389.3	389.3	388.9	388.5	388.1	387.6
162.5°	392.1	392.5	393.0	392.9	392.4	392.0	391.5	391.1
165°	397.3	397.8	398.4	398.3	397.7	397.1	396.5	395.9
167.5°	401.1	401.7	402.2	402.2	401.5	400.8	400.1	399.5
170°	403.4	403.9	404.4	404.3	403.7	403.0	402.3	401.7
172.5°	404.8	405.4	405.9	405.8	405.1	404.3	403.6	402.9
175°	406.6	407.2	407.8	407.7	406.8	406.0	405.2	404.4
177.5°	407.3	407.7	408.1	407.9	407.3	406.7	406.0	405.4
180°	406.8	406.8	406.8	406.8	406.8	406.8	406.8	406.8

(END OF REPORT)