

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: P332005-940

Luminaire Tested: **S123DIP-S1000D365U940-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332005-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S1000D365U940-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4916.3 lumens
Efficiency: N/A
Efficacy: 113.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

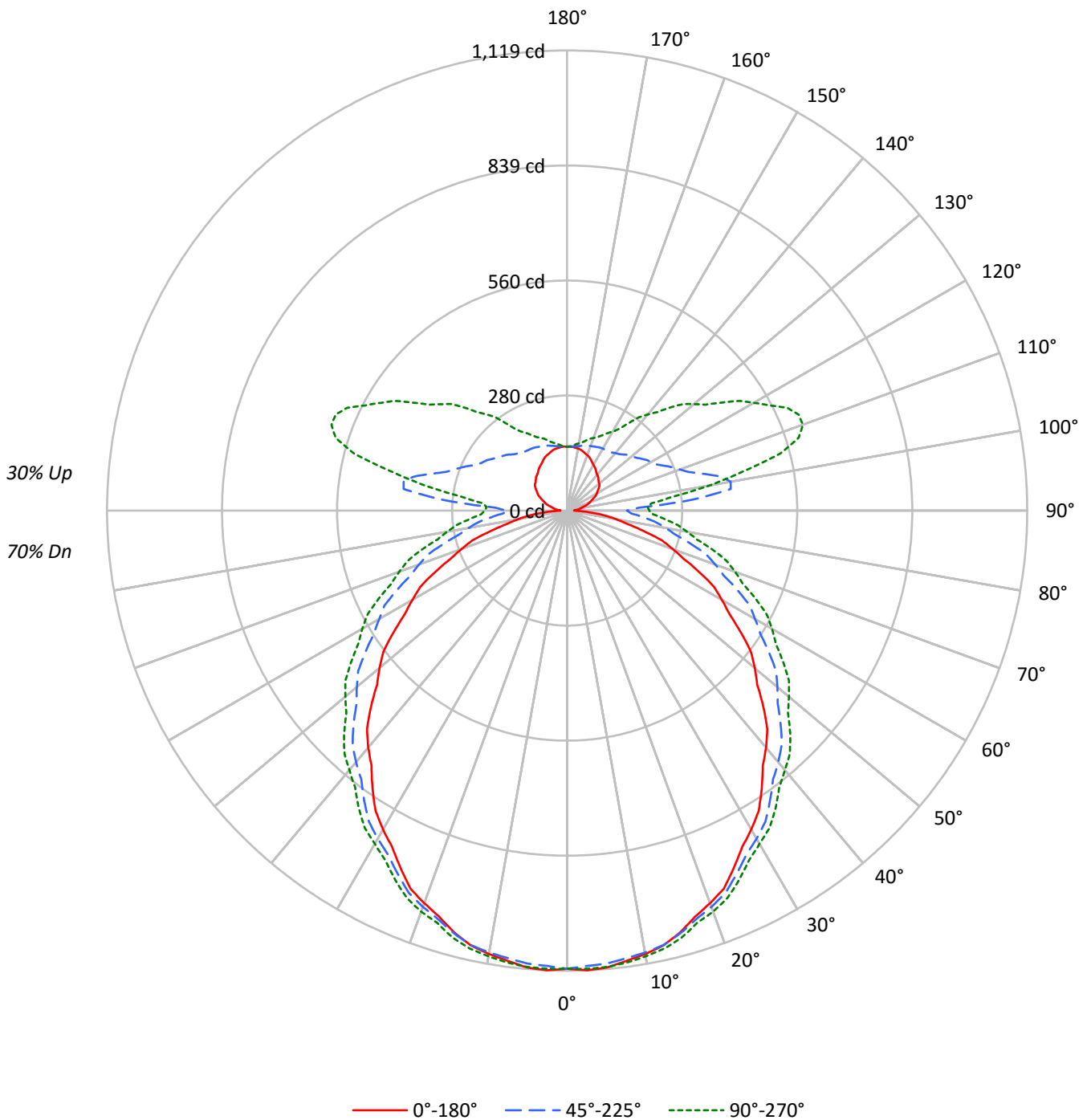
Input Watts (W): 43.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	106	106	106	106	94	94	94	84	84	84	74	74	74	70
1	101	96	91	87	95	90	86	83	81	77	75	72	69	67	63	62	60	56
2	91	83	76	70	86	78	72	67	70	65	61	62	58	55	55	52	49	46
3	83	72	64	58	78	68	61	55	61	55	50	54	50	46	48	45	41	38
4	76	64	55	48	71	60	53	46	54	48	43	48	43	39	43	39	35	32
5	69	57	48	41	65	54	46	40	48	42	37	43	38	34	38	34	31	28
6	64	51	42	36	60	48	40	35	44	37	32	39	34	29	35	30	27	24
7	59	46	37	31	56	44	36	30	39	33	28	36	30	26	32	27	24	21
8	55	42	34	28	52	40	32	27	36	30	25	33	27	23	29	25	21	19
9	51	38	30	25	48	36	29	24	33	27	22	30	25	21	27	22	19	17
10	48	35	27	22	45	34	26	22	31	24	20	28	22	19	25	21	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11992	11992	11992
5°	12030	11690	11697
10°	11922	11421	11364
15°	11768	11114	11000
20°	11548	10767	10600
25°	11278	10365	10179
30°	10999	10002	9754
35°	10689	9620	9413
40°	10391	9273	9048
45°	10062	8938	8757
50°	9737	8608	8436
55°	9378	8270	8147
60°	9028	7928	7850
65°	8670	7563	7499
70°	8127	7150	7138
75°	7448	6679	6770
80°	6658	6216	6350
85°	5935	5899	6108



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.6	2.1
10°-20°	301.1	6.1
20°-30°	450.3	9.2
30°-40°	537.8	10.9
40°-50°	562.6	11.4
50°-60°	528.0	10.7
60°-70°	441.0	9.0
70°-80°	315.5	6.4
80°-90°	189.4	3.9
90°-100°	204.7	4.2
100°-110°	332.1	6.8
110°-120°	299.2	6.1
120°-130°	225.6	4.6
130°-140°	166.6	3.4
140°-150°	116.4	2.4
150°-160°	79.0	1.6
160°-170°	46.4	0.9
170°-180°	15.1	0.3
0°-30°	857.0	17.4
0°-40°	1394.8	28.4
0°-60°	2485.4	50.6
0°-90°	3431.3	69.8
90°-120°	836.0	17.0
90°-150°	1344.6	27.4
90°-180°	1485.0	30.2
0°-180°	4916.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1114	1114	1114	1114	1114	
5°	1115	1113	1106	1115	1114	106
15°	1062	1065	1064	1076	1075	299
25°	959	970	975	989	990	442
35°	825	844	860	878	884	516
45°	675	704	734	757	767	520
55°	515	555	598	630	641	461
65°	356	403	456	491	505	351
75°	193	250	311	349	365	206
85°	60	120	184	224	238	62
90°	16	79	145	186	200	11
95°	24	96	307	211	206	22
105°	46	94	344	567	537	49
115°	71	103	258	517	591	70
125°	94	112	220	391	457	83
135°	108	128	193	305	354	83
145°	121	138	176	231	258	76
155°	136	147	170	194	202	63
165°	149	153	163	173	176	42
175°	155	156	157	159	158	15
180°	156	156	156	156	156	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1
2.5°	1119.0	1118.4	1117.7	1117.0	1116.4	1115.2	1113.5	1111.8	1110.0	1108.3	1110.0
5°	1115.4	1114.8	1114.3	1113.7	1113.2	1112.1	1110.5	1108.8	1107.2	1105.6	1107.8
7.5°	1104.4	1104.6	1104.7	1104.7	1104.8	1104.1	1102.6	1101.0	1099.4	1097.9	1100.5
10°	1094.8	1095.3	1095.8	1096.4	1096.9	1096.4	1095.1	1093.8	1092.4	1091.1	1093.8
12.5°	1083.1	1083.8	1084.6	1085.3	1086.1	1086.0	1085.1	1084.1	1083.3	1082.4	1084.9
15°	1061.9	1062.7	1063.5	1064.3	1065.1	1065.4	1065.1	1064.9	1064.6	1064.3	1067.1
17.5°	1035.3	1036.9	1038.5	1040.1	1041.7	1042.5	1042.4	1042.2	1042.1	1042.1	1044.5
20°	1015.8	1017.4	1019.0	1020.7	1022.3	1023.4	1024.0	1024.5	1025.0	1025.6	1028.0
22.5°	995.4	997.0	998.7	1000.3	1001.9	1003.1	1003.9	1004.6	1005.4	1006.1	1009.1
25°	958.8	961.4	964.2	966.9	969.6	971.3	972.1	972.9	973.7	974.6	978.0
27.5°	921.9	925.0	928.0	931.1	934.2	936.6	938.3	940.0	941.7	943.5	946.6
30°	895.6	899.2	902.7	906.2	909.7	912.5	914.7	916.9	919.0	921.1	924.4
32.5°	866.6	870.5	874.4	878.3	882.3	885.6	888.5	891.3	894.1	896.9	900.4
35°	825.3	829.6	833.9	838.2	842.6	846.4	850.0	853.5	856.9	860.5	864.5
37.5°	781.6	786.5	791.3	796.1	801.0	805.6	809.9	814.2	818.5	822.9	827.4
40°	752.4	757.3	762.1	767.0	771.9	777.0	782.4	787.8	793.2	798.6	803.2
42.5°	720.4	726.4	732.3	738.2	744.1	749.9	755.5	761.2	766.8	772.4	777.4
45°	674.8	681.3	687.8	694.2	700.7	707.3	714.0	720.8	727.5	734.2	739.4
47.5°	627.0	634.3	641.7	649.0	656.3	663.9	671.5	679.3	687.0	694.7	700.4
50°	595.9	603.4	611.0	618.6	626.1	634.1	642.4	650.8	659.2	667.5	673.7
52.5°	562.8	570.9	578.9	586.8	594.9	603.4	612.7	621.9	631.1	640.3	646.8
55°	514.6	523.5	532.4	541.3	550.2	559.5	569.2	578.9	588.6	598.3	605.6
57.5°	467.5	476.8	486.1	495.3	504.6	514.6	525.2	535.8	546.4	557.1	564.4
60°	434.5	444.2	453.9	463.6	473.3	483.7	494.7	505.9	516.9	528.0	535.5
62.5°	403.4	413.3	423.3	433.2	443.1	454.0	465.7	477.3	489.0	500.8	508.3
65°	355.6	366.1	376.7	387.2	397.7	408.8	420.7	432.6	444.4	456.4	464.4
67.5°	307.0	318.3	329.4	340.5	351.7	363.4	375.4	387.5	399.6	411.7	420.5
70°	273.0	284.6	296.2	307.9	319.5	331.7	344.6	357.7	370.6	383.5	392.2
72.5°	242.0	253.6	265.2	276.8	288.4	300.9	314.2	327.6	341.0	354.4	363.2
75°	193.0	205.6	218.3	231.0	243.7	256.7	270.3	283.7	297.2	310.7	319.6
77.5°	150.3	163.0	175.8	188.6	201.3	214.5	228.2	241.7	255.4	268.9	278.3
80°	120.1	133.4	146.6	159.8	173.0	186.6	200.6	214.7	228.7	242.7	251.9
82.5°	93.9	107.4	120.8	134.2	147.7	161.5	175.8	189.9	204.2	218.5	227.7
85°	59.5	72.9	86.4	100.0	113.4	127.3	141.6	155.9	170.1	184.5	193.7
87.5°	32.4	45.9	59.6	73.1	86.7	100.4	114.4	128.3	142.2	156.2	165.3
90°	16.4	30.2	44.1	58.2	72.1	86.2	100.9	115.7	130.3	145.0	153.9
92.5°	18.7	32.5	47.1	61.4	76.1	93.5	115.2	142.3	169.2	177.8	174.9
95°	24.1	35.5	49.5	65.4	84.1	108.3	148.3	208.4	273.3	307.0	280.1
97.5°	30.1	39.9	52.2	66.3	83.9	108.3	146.5	212.0	310.8	401.0	429.3
100°	34.2	43.2	54.0	67.1	83.3	106.0	140.5	199.6	294.9	404.0	473.9
102.5°	38.5	46.9	56.6	68.6	83.1	104.4	136.3	188.2	274.1	381.8	470.4
105°	46.3	53.7	62.1	72.3	84.8	103.5	132.2	176.2	247.4	344.4	442.4
107.5°	53.2	59.7	67.1	76.2	87.4	104.7	130.6	168.6	227.7	310.6	399.9
110°	58.3	64.1	70.5	78.9	89.1	105.8	130.7	165.4	218.5	291.3	373.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	63.8	68.8	74.4	81.9	91.2	106.9	130.5	163.0	210.5	275.9	349.2
115°	70.6	75.2	80.3	86.7	95.2	110.2	132.0	160.9	202.7	258.2	319.1
117.5°	78.5	81.9	85.4	90.3	98.4	111.7	132.7	159.0	195.4	243.6	297.1
120°	83.0	85.3	88.2	92.7	100.0	113.1	133.3	158.5	191.7	235.9	285.0
122.5°	87.8	89.4	91.8	95.9	102.3	115.2	134.8	158.4	189.1	229.3	274.1
125°	93.5	94.1	95.9	99.4	105.4	117.9	136.7	158.4	185.1	219.7	259.1
127.5°	98.7	99.3	101.4	104.7	111.0	122.6	139.7	158.7	182.2	211.3	245.0
130°	101.9	102.6	105.2	108.7	115.0	126.1	142.0	159.3	180.5	205.7	236.3
132.5°	103.5	104.7	107.7	112.2	118.7	129.1	143.6	159.6	178.2	200.5	228.0
135°	107.7	108.7	111.8	116.3	122.7	132.5	145.3	158.9	174.5	192.9	216.3
137.5°	111.6	112.7	115.9	120.7	127.1	135.6	146.7	158.6	171.5	186.4	206.3
140°	113.4	114.9	118.2	123.1	129.5	137.8	147.7	157.9	169.5	182.3	199.8
142.5°	116.5	117.5	120.7	125.0	131.1	138.5	147.5	156.9	167.0	177.9	193.5
145°	121.3	122.0	124.5	128.9	134.0	141.2	149.4	157.8	166.7	176.1	188.4
147.5°	125.0	125.6	128.3	132.4	137.6	143.7	151.2	158.9	166.7	175.0	184.2
150°	128.2	128.6	131.1	135.2	139.6	145.3	152.5	159.2	166.7	174.0	181.8
152.5°	131.5	131.6	134.1	137.7	141.6	147.0	153.3	159.6	165.9	172.7	179.8
155°	136.4	136.4	138.3	141.5	145.0	149.4	154.7	159.8	165.1	170.5	176.7
157.5°	140.4	140.6	142.1	144.9	147.8	151.2	155.5	160.1	164.1	168.5	173.3
160°	143.4	143.4	144.6	147.1	149.4	152.5	156.3	160.1	163.5	167.0	171.1
162.5°	145.6	145.6	146.7	148.6	150.6	153.3	156.6	159.8	162.6	165.5	168.8
165°	149.0	148.7	149.4	151.0	152.2	154.4	156.9	159.2	161.0	163.3	165.8
167.5°	151.6	151.2	151.6	152.8	153.6	155.1	156.9	158.6	159.5	161.0	162.8
170°	153.1	152.5	152.8	153.7	154.4	155.1	156.6	157.8	158.5	159.4	161.0
172.5°	154.2	153.7	153.8	154.5	154.9	155.2	156.6	157.7	157.7	158.2	159.3
175°	155.3	155.1	154.7	155.3	155.3	155.7	156.3	156.9	156.6	156.6	157.2
177.5°	156.0	155.7	155.4	155.7	155.7	155.7	156.0	156.4	156.0	155.7	156.0
180°	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1
2.5°	1111.8	1113.5	1115.2	1116.0	1115.7	1115.5	1115.4	1115.1
5°	1109.9	1112.1	1114.3	1115.2	1114.9	1114.6	1114.4	1114.1
7.5°	1103.2	1106.0	1108.7	1109.8	1109.6	1109.2	1108.8	1108.6
10°	1096.4	1099.1	1101.9	1103.0	1102.4	1101.9	1101.4	1100.8
12.5°	1087.3	1089.8	1092.3	1093.2	1092.7	1092.2	1091.6	1091.1
15°	1069.8	1072.5	1075.1	1076.4	1076.1	1075.8	1075.6	1075.3
17.5°	1046.9	1049.4	1051.8	1052.8	1052.4	1052.0	1051.7	1051.2
20°	1030.4	1032.8	1035.3	1036.6	1036.9	1037.1	1037.4	1037.7
22.5°	1012.3	1015.3	1018.4	1019.8	1019.7	1019.6	1019.4	1019.2
25°	981.6	985.1	988.6	990.3	990.3	990.3	990.3	990.3
27.5°	949.5	952.5	955.6	957.2	957.4	957.6	957.9	958.1
30°	927.6	930.9	934.1	935.8	935.8	935.8	935.8	935.8
32.5°	903.8	907.2	910.7	912.8	913.4	914.0	914.7	915.3
35°	868.5	872.6	876.6	879.2	880.3	881.4	882.4	883.5
37.5°	832.1	836.6	841.2	843.9	844.8	845.6	846.5	847.4
40°	807.7	812.3	816.9	819.7	820.8	821.9	823.0	824.0
42.5°	782.4	787.4	792.5	795.7	797.2	798.7	800.2	801.7
45°	744.5	749.7	754.7	758.4	760.5	762.7	764.9	767.0
47.5°	706.2	712.0	717.7	721.5	723.2	724.9	726.5	728.2
50°	679.9	686.1	692.3	696.3	698.3	700.2	702.0	703.9
52.5°	653.2	659.6	666.0	670.4	672.7	675.0	677.3	679.7
55°	612.9	620.2	627.5	632.1	634.4	636.5	638.6	640.8
57.5°	571.8	579.1	586.4	591.4	593.9	596.4	599.0	601.5
60°	543.1	550.6	558.1	563.4	566.4	569.4	572.3	575.2
62.5°	515.9	523.4	530.9	536.1	538.9	541.6	544.4	547.2
65°	472.5	480.6	488.7	494.1	496.8	499.4	502.2	504.9
67.5°	429.4	438.2	447.0	452.6	454.9	457.2	459.4	461.6
70°	400.7	409.4	418.0	423.7	426.4	429.1	431.8	434.5
72.5°	372.1	380.9	389.8	395.6	398.2	400.9	403.7	406.4
75°	328.5	337.4	346.3	352.4	355.6	358.8	362.0	365.3
77.5°	287.8	297.1	306.5	312.5	314.9	317.4	319.9	322.4
80°	261.1	270.3	279.4	285.3	288.0	290.7	293.5	296.1
82.5°	236.8	245.9	255.1	261.1	263.8	266.4	269.1	271.9
85°	202.8	212.0	221.1	227.1	229.8	232.5	235.1	237.9
87.5°	174.5	183.8	193.0	199.0	201.7	204.5	207.2	209.8
90°	163.4	172.8	182.4	188.9	191.3	194.3	197.3	199.7
92.5°	173.8	177.3	183.8	187.9	189.8	191.3	194.1	196.0
95°	250.3	222.1	213.7	207.9	204.6	204.6	205.0	206.4
97.5°	410.3	362.0	329.4	297.1	276.5	265.0	259.2	259.2
100°	492.8	475.0	446.0	406.5	377.4	357.0	347.5	350.5
102.5°	515.9	522.8	508.9	485.7	463.6	448.1	440.5	436.0
105°	515.8	554.8	568.4	565.2	553.1	543.6	535.9	536.7
107.5°	481.8	540.2	575.1	591.0	593.7	592.0	591.0	590.5
110°	452.8	517.8	564.5	591.2	602.2	606.8	608.3	609.8



TEST NUMBER: P332005-940

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	423.1	489.2	540.5	573.4	591.9	602.1	606.9	609.4
115°	383.9	445.1	497.9	536.6	562.4	578.5	586.9	590.7
117.5°	352.8	406.5	454.5	493.7	520.4	538.4	549.6	553.8
120°	335.6	384.4	428.4	464.3	491.1	510.6	520.0	523.8
122.5°	321.0	365.5	406.5	440.1	464.0	481.8	492.0	496.3
125°	300.7	340.7	376.6	405.6	427.7	443.4	453.2	457.3
127.5°	281.9	317.9	350.5	377.0	396.8	410.5	419.5	423.3
130°	269.8	303.3	333.9	358.7	377.1	390.0	398.2	402.4
132.5°	258.2	289.3	317.9	341.7	359.2	372.4	380.0	383.7
135°	242.4	269.6	294.9	315.9	332.8	343.6	350.5	354.1
137.5°	227.6	250.1	272.1	290.4	304.8	315.7	321.8	324.7
140°	218.7	238.8	258.0	274.3	287.6	297.7	304.2	305.1
142.5°	209.6	227.1	243.8	258.1	269.7	278.8	284.7	285.7
145°	200.6	213.2	225.4	236.2	245.1	252.8	256.5	258.2
147.5°	193.4	202.3	211.1	218.4	225.3	230.8	234.2	235.3
150°	189.0	196.4	203.0	209.2	214.5	218.5	220.9	221.4
152.5°	186.3	192.5	198.4	203.4	207.2	210.5	211.8	212.0
155°	182.2	187.2	191.9	195.6	198.5	201.1	201.7	202.0
157.5°	177.7	181.9	185.6	188.6	191.0	192.9	193.4	193.3
160°	175.2	178.7	181.8	184.0	186.2	188.2	188.2	187.8
162.5°	172.2	175.1	178.1	180.0	181.5	183.1	183.1	182.8
165°	168.3	170.1	172.4	174.0	175.2	176.5	176.1	176.1
167.5°	164.9	166.3	167.6	168.7	169.2	170.1	169.9	169.9
170°	162.6	163.5	164.8	165.4	165.8	166.4	166.0	166.0
172.5°	160.6	161.3	162.3	162.6	162.7	163.4	162.8	162.6
175°	157.8	158.2	158.8	158.8	158.8	159.2	158.8	158.5
177.5°	156.1	156.4	156.7	156.7	156.4	156.7	156.1	156.1
180°	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7

(END OF REPORT)