

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: P331461

Luminaire Tested: **SA2XXDIP-C1005D1080U835-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331461
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C1005D1080U835-4F0-1E-UDD-D4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8243.2 lumens
Efficiency: N/A
Efficacy: 115.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

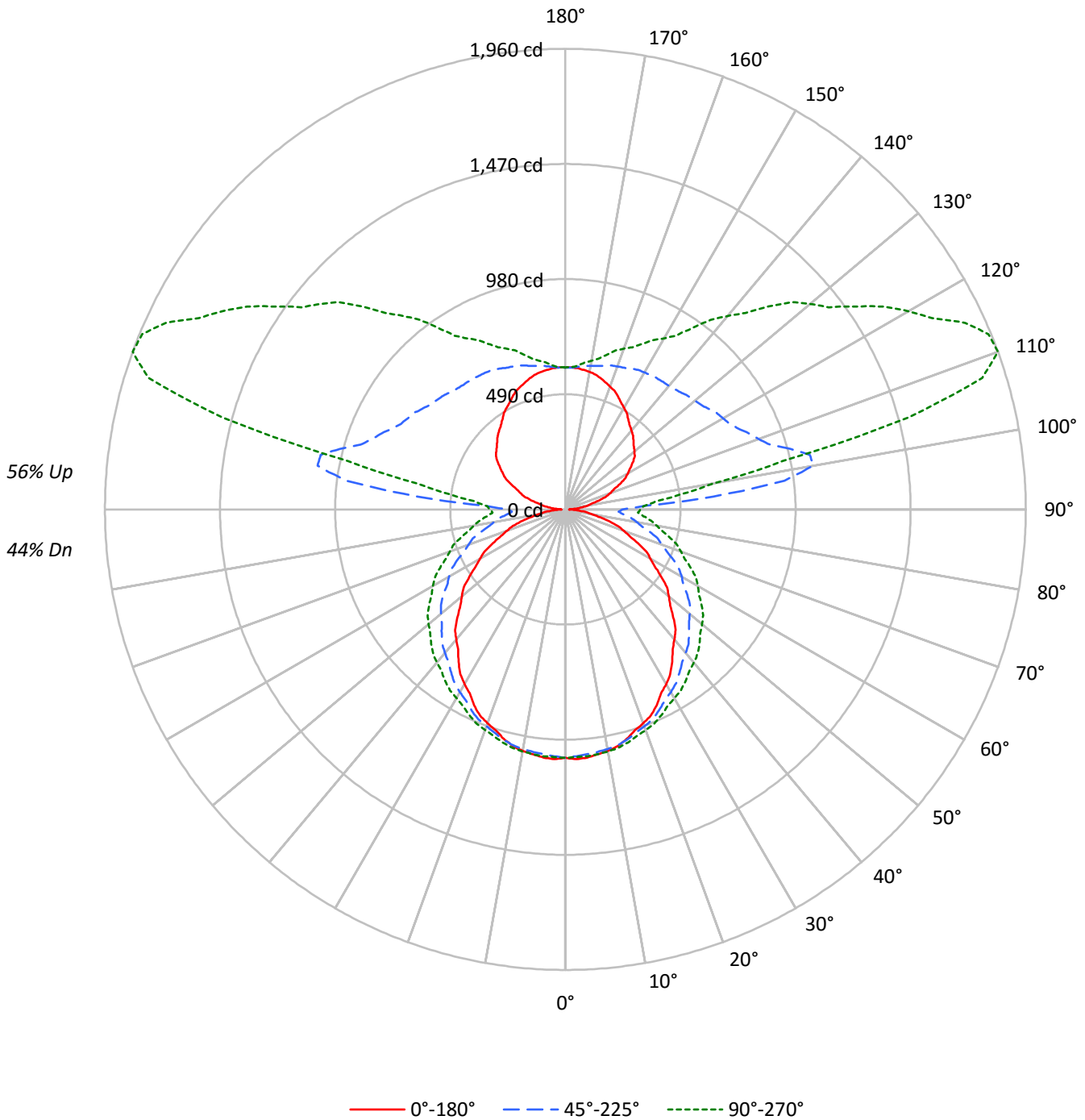
Input Watts (W): 71.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	106	106	106	106	97	97	97	97	80	80	80	64	64	64	50	50	50	44
1	95	90	86	82	87	82	79	75	68	65	63	55	53	51	42	41	40	34
2	86	78	71	66	78	71	66	61	59	54	51	47	44	41	36	34	32	27
3	78	68	60	54	71	62	56	50	51	46	42	41	38	34	32	29	27	23
4	71	60	52	45	65	55	48	42	45	40	35	36	32	29	28	25	23	19
5	65	53	45	39	59	49	41	36	40	35	30	33	28	25	25	22	20	16
6	60	48	39	33	54	44	36	31	36	30	26	29	25	22	23	20	17	14
7	55	43	35	29	50	39	32	27	33	27	23	27	22	19	21	18	15	12
8	51	39	31	25	47	36	29	24	30	24	20	24	20	17	19	16	14	11
9	48	35	28	22	43	32	26	21	27	22	18	22	18	15	18	14	12	10
10	44	32	25	20	41	30	23	19	25	20	16	20	16	14	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17073	17073	17073
5°	17157	16435	16373
10°	17049	15949	15770
15°	16814	15435	15136
20°	16517	14884	14525
25°	16223	14353	13970
30°	15810	13808	13414
35°	15392	13280	13021
40°	14952	12831	12629
45°	14535	12429	12294
50°	14086	12066	11964
55°	13616	11675	11627
60°	13040	11269	11271
65°	12441	10795	10850
70°	11770	10285	10393
75°	10911	9784	9973
80°	9555	9272	9549
85°	8259	8830	9217



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.2	1.2
10°-20°	287.3	3.5
20°-30°	435.4	5.3
30°-40°	530.3	6.4
40°-50°	570.5	6.9
50°-60°	554.1	6.7
60°-70°	483.8	5.9
70°-80°	372.4	4.5
80°-90°	255.4	3.1
90°-100°	413.7	5.0
100°-110°	945.4	11.5
110°-120°	953.8	11.6
120°-130°	763.2	9.3
130°-140°	595.1	7.2
140°-150°	438.4	5.3
150°-160°	305.7	3.7
160°-170°	180.0	2.2
170°-180°	58.6	0.7
0°-30°	822.9	10.0
0°-40°	1353.3	16.4
0°-60°	2477.9	30.1
0°-90°	3589.5	43.5
90°-120°	2312.9	28.1
90°-150°	4109.5	49.9
90°-180°	4654.0	56.5
0°-180°	8243.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1057	1057	1057	1057	1057	
5°	1060	1056	1047	1055	1054	101
15°	1012	1014	1014	1028	1027	285
25°	920	930	944	962	967	423
35°	792	819	848	880	892	495
45°	650	692	745	790	808	501
55°	498	555	633	686	708	445
65°	340	416	506	566	588	338
75°	188	275	372	436	458	199
85°	55	150	248	310	334	59
90°	16	120	242	299	320	13
95°	53	185	632	404	385	53
105°	149	268	993	1722	1512	159
115°	256	341	812	1623	1878	253
125°	352	418	744	1296	1505	313
135°	410	490	701	1060	1220	317
145°	467	537	681	854	942	293
155°	531	573	661	748	777	244
165°	578	596	633	671	682	163
175°	603	604	609	616	614	57
180°	604	604	604	604	604	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4
2.5°	1063.6	1062.8	1061.9	1061.1	1060.3	1058.9	1057.0	1055.1	1053.2	1051.3	1052.7
5°	1060.5	1059.5	1058.5	1057.4	1056.4	1054.9	1052.9	1050.8	1048.8	1046.7	1048.8
7.5°	1051.0	1050.3	1049.6	1049.0	1048.3	1047.2	1045.6	1044.0	1042.5	1040.9	1043.3
10°	1043.7	1043.0	1042.3	1041.6	1040.9	1040.1	1039.1	1038.0	1037.0	1036.0	1038.7
12.5°	1031.4	1031.5	1031.7	1031.8	1031.9	1031.6	1030.9	1030.1	1029.4	1028.6	1031.4
15°	1011.5	1012.2	1012.8	1013.5	1014.2	1014.5	1014.5	1014.5	1014.5	1014.5	1017.6
17.5°	985.7	987.2	988.6	990.0	991.4	992.7	993.8	994.9	996.0	997.1	1000.3
20°	968.6	970.3	972.0	973.7	975.4	976.9	978.3	979.6	981.0	982.4	986.1
22.5°	950.2	952.1	954.1	956.1	958.1	960.0	961.9	963.8	965.7	967.6	971.4
25°	919.5	921.9	924.3	926.7	929.1	931.8	934.8	937.9	941.0	944.0	948.1
27.5°	882.7	886.6	890.5	894.4	898.3	902.0	905.6	909.2	912.8	916.5	921.6
30°	858.2	862.6	867.1	871.5	875.9	880.4	884.8	889.2	893.6	898.1	903.5
32.5°	831.2	836.2	841.2	846.2	851.1	856.2	861.5	866.7	872.0	877.2	883.5
35°	792.3	798.1	803.9	809.7	815.5	821.6	828.1	834.5	841.0	847.5	855.0
37.5°	750.0	756.7	763.4	770.0	776.7	784.2	792.6	801.0	809.4	817.8	826.1
40°	721.8	729.3	736.8	744.3	751.8	760.1	769.3	778.5	787.7	796.9	805.8
42.5°	694.9	702.3	709.8	717.3	724.8	733.8	744.4	755.0	765.5	776.1	785.7
45°	649.8	659.0	668.2	677.4	686.6	697.1	709.1	721.0	732.9	744.8	755.4
47.5°	605.4	615.4	625.4	635.4	645.4	657.4	671.4	685.3	699.3	713.2	724.3
50°	574.7	585.3	595.8	606.4	616.9	629.9	645.2	660.5	675.8	691.2	702.8
52.5°	545.3	556.4	567.5	578.6	589.7	603.3	619.4	635.6	651.7	667.9	679.7
55°	498.1	510.3	522.6	534.9	547.1	562.1	579.8	597.5	615.2	632.9	645.2
57.5°	451.5	465.3	479.1	493.0	506.8	522.7	540.8	558.8	576.9	594.9	608.1
60°	418.4	433.0	447.7	462.3	477.0	494.0	513.4	532.8	552.2	571.6	584.6
62.5°	389.0	404.1	419.3	434.5	449.7	467.0	486.4	505.8	525.3	544.7	558.4
65°	340.2	356.9	373.6	390.3	407.0	425.4	445.5	465.5	485.6	505.7	519.7
67.5°	295.5	312.9	330.3	347.8	365.2	384.2	404.8	425.4	445.9	466.5	480.6
70°	263.6	281.3	299.0	316.7	334.4	353.8	375.0	396.1	417.2	438.3	452.9
72.5°	234.2	252.4	270.7	288.9	307.2	327.0	348.4	369.8	391.2	412.6	426.9
75°	188.5	207.6	226.6	245.7	264.8	285.2	307.0	328.8	350.6	372.4	387.0
77.5°	144.4	164.3	184.3	204.2	224.2	245.2	267.4	289.5	311.6	333.8	348.4
80°	114.9	135.7	156.5	177.3	198.0	219.5	241.6	263.8	285.9	308.0	322.3
82.5°	90.4	110.9	131.4	151.9	172.4	193.9	216.3	238.7	261.1	283.5	297.8
85°	55.2	76.3	97.4	118.5	139.6	161.1	182.9	204.7	226.5	248.3	262.6
87.5°	30.3	51.3	72.5	93.3	114.0	135.8	158.7	182.1	205.3	227.4	241.0
90°	16.5	39.7	64.1	86.2	108.3	132.5	160.1	190.1	218.8	241.8	254.3
92.5°	28.3	52.9	79.7	103.2	129.5	160.1	207.3	265.2	319.2	342.3	332.2
95°	52.9	73.6	101.2	127.7	162.2	208.4	282.2	403.7	558.9	631.6	587.6
97.5°	76.9	97.5	124.0	154.0	189.6	238.2	324.9	485.3	728.9	940.5	991.2
100°	100.2	116.3	139.3	170.5	206.3	254.7	335.3	496.1	766.1	1071.0	1250.9
102.5°	120.3	134.4	156.4	186.5	222.1	269.7	345.1	489.6	740.4	1067.0	1342.4
105°	149.4	163.9	181.9	209.2	244.7	291.0	363.3	484.4	693.8	992.6	1313.5
107.5°	182.5	194.2	210.0	233.9	267.1	312.3	382.2	489.3	664.8	914.0	1198.5
110°	203.6	215.1	228.9	250.8	282.0	327.4	395.2	495.5	654.0	875.1	1126.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	224.1	234.4	248.0	267.9	297.1	342.5	407.7	502.5	647.1	846.1	1073.3
115°	255.9	265.4	276.2	293.8	320.8	361.7	427.0	513.2	641.2	812.2	1005.9
117.5°	287.3	294.4	303.9	318.6	343.4	384.2	444.6	525.2	638.2	788.7	958.4
120°	307.8	313.8	322.1	334.0	358.5	398.6	457.5	533.8	636.9	774.8	931.9
122.5°	327.3	331.6	339.1	351.0	374.8	414.9	470.2	541.1	636.9	763.8	908.5
125°	351.6	355.1	362.0	376.0	399.2	437.2	489.9	553.1	636.0	744.5	873.3
127.5°	372.0	376.3	385.7	400.7	422.7	460.4	509.8	565.5	637.1	729.5	840.6
130°	384.1	388.4	399.7	415.6	438.5	474.4	522.2	573.5	638.8	720.3	819.0
132.5°	395.2	400.5	412.7	429.5	453.4	488.5	532.8	581.5	640.5	712.0	800.3
135°	410.4	415.1	429.0	446.5	473.2	507.4	548.0	592.0	641.9	701.1	774.4
137.5°	426.2	431.7	445.6	464.1	490.6	521.5	559.7	599.1	642.8	692.0	753.8
140°	438.3	442.6	456.2	474.5	499.7	530.1	565.6	602.3	642.5	686.1	741.5
142.5°	450.4	453.8	466.4	484.7	509.0	537.2	571.3	606.5	643.3	683.7	731.5
145°	467.0	471.6	483.3	500.7	523.9	549.5	580.8	613.4	645.9	680.7	720.0
147.5°	486.5	490.0	501.1	517.2	536.5	559.2	588.7	617.3	646.8	676.6	709.4
150°	499.5	503.0	512.3	527.4	544.8	565.7	592.5	619.2	645.9	673.8	701.6
152.5°	512.5	514.2	523.4	536.7	553.2	572.2	596.2	620.1	644.0	669.1	695.1
155°	530.9	532.0	539.0	551.8	564.6	582.0	601.7	621.5	641.2	661.0	683.1
157.5°	546.2	547.4	553.0	564.1	574.3	589.0	605.7	621.5	635.9	652.6	671.7
160°	556.4	557.6	562.2	571.5	580.8	593.6	607.6	621.5	633.1	647.1	663.3
162.5°	566.7	566.0	570.6	578.0	586.4	596.4	608.5	620.6	630.3	642.4	655.9
165°	578.5	577.4	579.7	586.6	592.5	599.4	609.9	618.0	625.0	633.1	643.6
167.5°	588.3	586.9	589.0	593.4	597.6	602.0	609.6	616.4	619.6	625.0	631.5
170°	594.8	592.5	593.6	597.1	599.4	602.9	608.7	614.5	616.8	620.3	625.0
172.5°	598.5	597.1	596.4	599.9	601.3	603.8	607.8	611.7	613.1	614.8	618.5
175°	602.9	601.7	600.6	602.9	602.9	604.1	606.4	608.7	607.6	608.7	609.9
177.5°	605.0	603.1	602.2	604.1	604.1	604.1	605.0	606.9	605.0	604.1	605.0
180°	604.1	604.1	604.1	604.1	604.1	604.1	604.1	604.1	604.1	604.1	604.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4
2.5°	1054.0	1055.4	1056.8	1057.2	1056.6	1056.1	1055.5	1055.0
5°	1050.8	1052.9	1054.9	1055.7	1055.4	1055.1	1054.7	1054.4
7.5°	1045.8	1048.3	1050.7	1051.8	1051.4	1051.1	1050.7	1050.4
10°	1041.4	1044.2	1046.9	1048.1	1047.7	1047.4	1047.1	1046.7
12.5°	1034.1	1036.8	1039.5	1040.7	1040.4	1040.0	1039.7	1039.4
15°	1020.7	1023.7	1026.8	1028.2	1027.8	1027.5	1027.1	1026.8
17.5°	1003.5	1006.7	1009.9	1011.5	1011.5	1011.5	1011.5	1011.5
20°	989.8	993.6	997.3	999.2	999.2	999.2	999.2	999.2
22.5°	975.1	978.9	982.6	984.8	985.3	985.9	986.4	987.0
25°	952.2	956.3	960.4	962.9	964.0	965.0	966.0	967.0
27.5°	926.8	932.0	937.2	940.1	940.9	941.6	942.4	943.1
30°	909.0	914.4	919.9	923.1	924.1	925.1	926.2	927.2
32.5°	889.8	896.0	902.3	906.3	908.2	910.0	911.9	913.7
35°	862.5	870.0	877.5	882.4	884.8	887.2	889.6	891.9
37.5°	834.4	842.7	851.0	856.4	858.9	861.5	864.0	866.5
40°	814.6	823.5	832.3	838.3	841.4	844.4	847.5	850.6
42.5°	795.4	805.1	814.8	821.1	824.2	827.3	830.3	833.4
45°	765.9	776.5	787.0	794.0	797.4	800.8	804.2	807.6
47.5°	735.3	746.3	757.4	764.8	768.5	772.3	776.0	779.8
50°	714.3	725.9	737.5	745.2	748.9	752.6	756.4	760.1
52.5°	691.6	703.4	715.3	723.2	727.2	731.3	735.3	739.3
55°	657.5	669.7	682.0	690.3	694.7	699.2	703.6	708.0
57.5°	621.4	634.6	647.8	656.6	661.1	665.6	670.1	674.6
60°	597.5	610.5	623.4	632.3	637.0	641.8	646.6	651.3
62.5°	572.2	585.9	599.7	608.8	613.3	617.8	622.3	626.8
65°	533.7	547.6	561.6	570.8	575.2	579.6	584.1	588.5
67.5°	494.7	508.8	522.9	532.3	536.9	541.5	546.2	550.8
70°	467.6	482.2	496.9	506.2	510.3	514.4	518.5	522.6
72.5°	441.3	455.7	470.0	479.7	484.6	489.5	494.4	499.3
75°	401.7	416.3	431.0	440.5	444.9	449.4	453.8	458.2
77.5°	362.9	377.5	392.1	401.8	406.5	411.3	416.1	420.8
80°	336.6	351.0	365.3	374.8	379.6	384.3	389.1	393.9
82.5°	312.1	326.4	340.7	350.1	354.6	359.1	363.6	368.1
85°	276.9	291.2	305.5	315.0	319.8	324.6	329.3	334.1
87.5°	254.7	268.1	282.5	291.8	296.2	300.6	304.9	309.3
90°	266.7	278.0	294.0	304.0	308.1	312.1	316.2	320.3
92.5°	319.3	318.2	321.8	323.3	326.5	326.8	331.9	334.1
95°	506.5	448.6	412.7	395.7	384.7	379.4	380.1	385.3
97.5°	898.5	781.9	668.8	593.3	541.8	517.2	504.3	498.5
100°	1239.1	1107.6	961.1	828.7	736.0	689.8	659.9	642.7
102.5°	1459.5	1439.3	1335.2	1194.3	1093.3	1011.8	973.5	948.9
105°	1567.1	1710.3	1737.3	1706.8	1638.5	1570.2	1524.0	1511.5
107.5°	1466.2	1675.3	1807.6	1871.4	1884.2	1884.0	1877.8	1859.9
110°	1382.5	1601.3	1760.9	1863.5	1917.2	1943.0	1957.2	1959.8



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CATALOG NUMBER: SA2XXDIP-C1005D1080U835-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1305.1	1515.6	1685.4	1801.9	1875.1	1915.8	1939.3	1949.3
115°	1207.8	1397.0	1559.4	1686.0	1772.2	1829.4	1863.3	1877.5
117.5°	1131.3	1298.5	1446.6	1565.6	1653.1	1713.1	1748.4	1760.7
120°	1091.3	1244.9	1377.6	1489.9	1575.0	1633.3	1670.8	1686.1
122.5°	1058.3	1199.5	1325.4	1427.2	1503.3	1560.2	1593.3	1606.3
125°	1009.1	1138.0	1249.4	1342.7	1413.1	1460.3	1492.4	1504.8
127.5°	960.6	1077.3	1182.2	1268.3	1330.0	1374.4	1402.5	1412.9
130°	929.4	1037.5	1137.5	1219.6	1279.2	1321.5	1347.4	1359.4
132.5°	899.2	999.6	1091.9	1169.2	1227.9	1270.1	1294.2	1305.3
135°	857.1	940.9	1024.8	1094.7	1147.4	1188.5	1212.1	1219.5
137.5°	821.6	892.0	959.1	1020.1	1068.0	1103.3	1123.9	1133.2
140°	799.3	860.5	919.3	974.2	1013.4	1045.7	1065.1	1074.2
142.5°	781.6	833.4	883.7	929.5	966.6	995.8	1013.2	1016.3
145°	758.0	798.4	836.4	872.0	901.6	923.0	936.4	941.5
147.5°	740.3	770.8	799.2	824.3	848.1	864.8	873.5	876.4
150°	729.5	755.1	779.5	800.4	817.8	831.8	838.7	839.9
152.5°	719.3	743.0	763.7	781.8	795.5	807.6	812.7	812.9
155°	705.1	723.7	741.1	753.9	766.7	774.8	779.5	777.2
157.5°	688.6	704.2	718.8	728.8	737.9	744.6	746.7	746.7
160°	678.4	691.2	704.0	712.1	720.2	726.0	727.2	727.2
162.5°	668.2	679.1	690.0	696.3	704.4	708.4	709.5	708.6
165°	652.9	661.0	669.1	673.8	678.4	683.1	683.1	681.9
167.5°	638.2	644.5	650.1	654.3	656.3	658.9	658.7	657.3
170°	630.8	634.3	638.9	641.2	642.4	645.9	644.7	642.4
172.5°	622.4	625.0	628.7	630.1	631.3	632.9	631.7	630.3
175°	613.4	614.5	615.7	616.8	616.8	618.0	616.8	614.5
177.5°	606.9	606.9	607.8	607.8	607.8	607.8	606.9	605.0
180°	604.1	604.1	604.1	604.1	604.1	604.1	604.1	604.1

(END OF REPORT)