

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: P331692-840

Luminaire Tested: **SA2XXRDIP-C675D725U840-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331692-840
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: SA2XXRDIP-C675D725U840-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 725 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

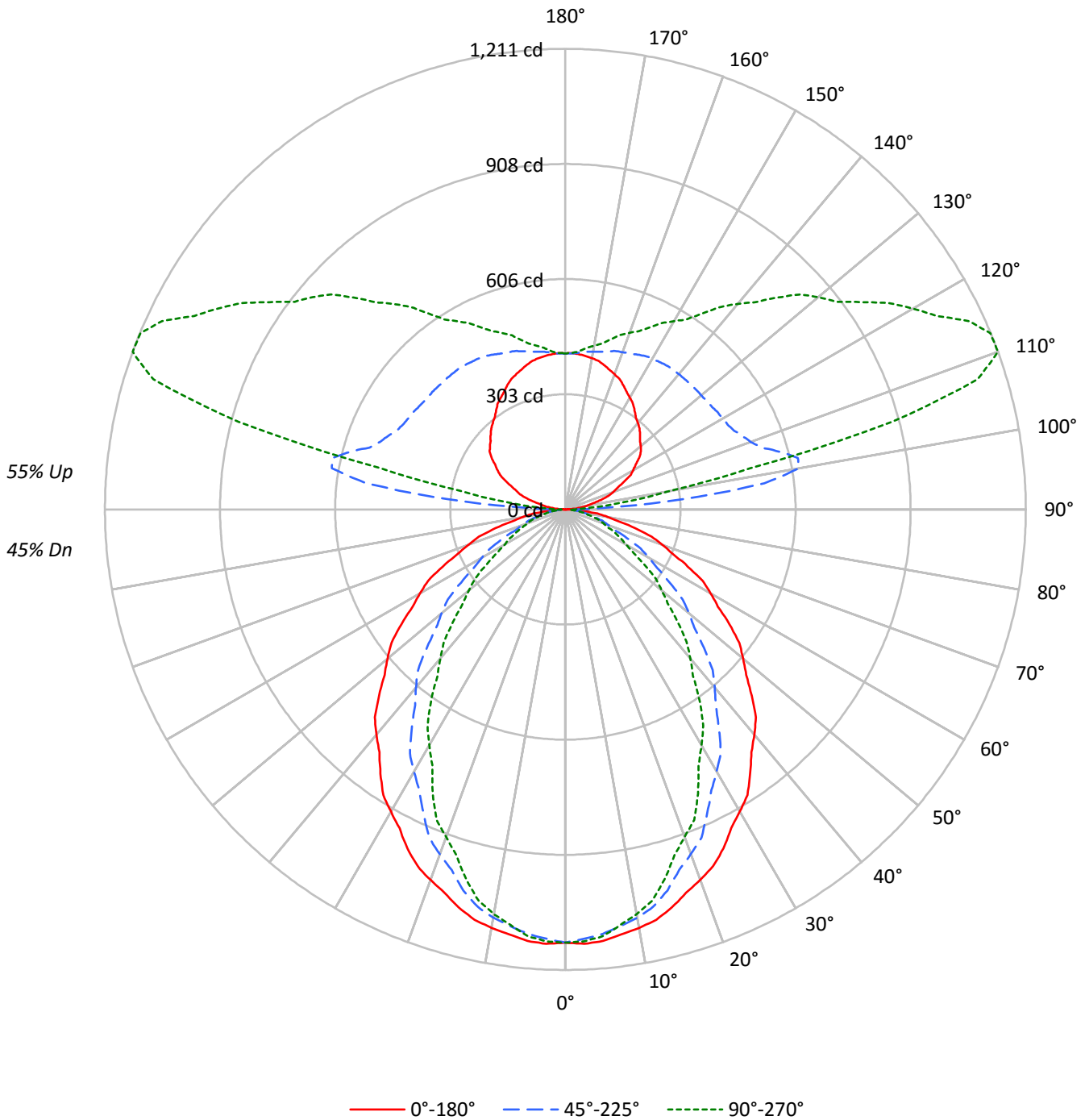
Lumens per Lamp: N/A
Luminaire Lumens: 5203.2 lumens
Efficiency: N/A
Efficacy: 113.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 45.9
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	81	81	81	66	66	66	52	52	52	45
1	97	93	89	86	89	85	82	79	71	69	67	58	57	55	46	45	44	39
2	89	82	76	71	81	75	70	66	63	59	56	52	49	47	41	40	38	33
3	81	72	65	60	74	67	60	56	56	51	48	46	43	40	37	35	33	29
4	75	64	57	51	68	59	53	47	50	45	41	41	38	35	33	31	29	25
5	69	57	49	44	63	53	46	41	45	40	36	37	33	30	30	27	25	22
6	63	52	44	38	58	48	41	36	41	35	31	34	30	27	28	25	22	20
7	59	47	39	34	54	43	36	32	37	32	28	31	27	24	25	22	20	17
8	54	42	35	30	50	39	33	28	34	28	25	28	24	21	23	20	18	16
9	51	39	32	27	47	36	30	25	31	26	22	26	22	19	22	19	16	14
10	47	36	29	24	44	33	27	23	29	24	20	24	20	18	20	17	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	18392	18392	18392
5°	18462	18162	18263
10°	18321	17864	17713
15°	18111	17336	16836
20°	17819	16579	15747
25°	17521	15720	14694
30°	17107	14838	13340
35°	16703	13878	12151
40°	16297	12886	10777
45°	15819	11768	9533
50°	15330	10643	8312
55°	14829	9433	7139
60°	14247	8157	5926
65°	13589	6854	5398
70°	12798	5646	4961
75°	11834	5147	4629
80°	10451	4603	4212
85°	8207	3631	3631



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	106.6	2.0
10°-20°	292.8	5.6
20°-30°	411.1	7.9
30°-40°	448.3	8.6
40°-50°	412.2	7.9
50°-60°	323.8	6.2
60°-70°	211.1	4.1
70°-80°	108.8	2.1
80°-90°	31.9	0.6
90°-100°	164.1	3.2
100°-110°	557.0	10.7
110°-120°	591.7	11.4
120°-130°	487.1	9.4
130°-140°	391.2	7.5
140°-150°	295.6	5.7
150°-160°	207.7	4.0
160°-170°	122.3	2.4
170°-180°	39.8	0.8
0°-30°	810.5	15.6
0°-40°	1258.9	24.2
0°-60°	1994.8	38.3
0°-90°	2346.7	45.1
90°-120°	1312.8	25.2
90°-150°	2486.7	47.8
90°-180°	2856.0	54.9
0°-180°	5203.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1139	1139	1139	1139	1139	
5°	1139	1134	1121	1129	1127	108
15°	1084	1071	1037	1018	1007	305
25°	984	949	882	842	825	452
35°	847	793	704	642	616	530
45°	693	622	515	445	418	535
55°	527	445	335	276	254	471
65°	356	272	179	146	141	352
75°	190	120	82	76	74	201
85°	44	24	20	20	20	52
90°	1	11	27	26	26	3
95°	28	68	309	117	90	29
105°	96	145	585	1046	890	102
115°	170	214	490	1010	1171	168
125°	237	280	470	818	950	210
135°	278	332	465	688	787	215
145°	317	365	463	574	628	199
155°	361	390	449	508	528	166
165°	393	405	430	456	463	111
175°	410	410	414	419	418	39
180°	410	410	410	410	410	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1
2.5°	1143.3	1142.4	1141.5	1140.5	1139.6	1138.1	1136.1	1134.1	1132.2	1130.1	1132.0
5°	1139.1	1138.0	1136.9	1135.7	1134.6	1132.6	1129.5	1126.6	1123.6	1120.6	1122.7
7.5°	1127.4	1126.0	1124.6	1123.2	1121.8	1119.2	1115.8	1112.4	1108.8	1105.4	1105.9
10°	1117.5	1115.9	1114.3	1112.7	1111.1	1108.0	1103.4	1098.8	1094.3	1089.6	1089.0
12.5°	1105.1	1103.2	1101.2	1099.2	1097.2	1093.4	1087.5	1081.7	1075.7	1069.9	1068.6
15°	1083.5	1081.0	1078.4	1075.9	1073.4	1068.2	1060.5	1052.7	1044.9	1037.1	1032.8
17.5°	1056.9	1053.1	1049.2	1045.3	1041.5	1034.6	1024.6	1014.6	1004.6	994.6	989.5
20°	1037.1	1032.5	1027.9	1023.4	1018.8	1010.8	999.3	987.8	976.4	964.9	959.2
22.5°	1015.6	1010.6	1005.4	1000.3	995.1	986.1	973.2	960.3	947.4	934.4	927.1
25°	983.5	976.1	968.9	961.5	954.2	942.9	927.9	912.7	897.6	882.4	873.0
27.5°	944.7	936.8	928.8	920.8	912.8	900.3	883.3	866.3	849.2	832.1	821.2
30°	917.6	908.8	900.1	891.4	882.7	869.2	850.8	832.5	814.2	795.9	784.2
32.5°	891.1	880.9	870.8	860.6	850.4	836.0	817.3	798.6	779.9	761.2	747.9
35°	847.4	835.8	824.0	812.3	800.7	784.8	764.6	744.5	724.3	704.1	689.6
37.5°	803.8	790.8	778.0	765.2	752.3	735.2	713.8	692.3	670.8	649.2	633.4
40°	773.2	759.4	745.7	732.0	718.2	700.2	678.0	655.8	633.6	611.4	595.1
42.5°	741.8	727.4	712.9	698.4	684.0	665.2	642.3	619.4	596.3	573.4	556.5
45°	692.8	677.4	662.1	646.7	631.4	611.7	587.6	563.6	539.5	515.4	499.2
47.5°	644.9	628.6	612.4	596.1	579.9	559.4	534.5	509.7	484.8	460.0	443.8
50°	610.3	594.0	577.7	561.5	545.2	524.5	499.3	474.1	448.9	423.7	407.9
52.5°	576.5	559.5	542.5	525.5	508.5	487.7	463.0	438.4	413.7	389.1	373.9
55°	526.8	509.0	491.1	473.2	455.3	434.0	409.3	384.6	359.8	335.1	321.3
57.5°	475.8	457.6	439.2	420.9	402.5	381.5	357.7	334.0	310.1	286.4	273.8
60°	441.2	422.9	404.6	386.3	367.9	347.0	323.4	299.7	276.2	252.6	240.9
62.5°	407.4	389.1	370.7	352.4	334.1	313.7	291.2	268.7	246.2	223.7	212.6
65°	355.7	337.1	318.5	300.0	281.4	261.9	241.3	220.7	200.0	179.4	171.6
67.5°	305.8	287.3	268.9	250.5	232.1	213.6	195.0	176.5	157.9	139.4	135.8
70°	271.1	253.3	235.4	217.5	199.7	182.8	167.0	151.2	135.4	119.6	117.2
72.5°	238.1	221.0	203.9	186.7	169.6	154.7	142.0	129.3	116.6	103.9	102.0
75°	189.7	173.7	157.6	141.6	125.5	113.6	105.8	98.1	90.3	82.5	80.9
77.5°	142.1	127.9	113.9	99.9	85.8	76.9	73.1	69.4	65.6	61.9	60.9
80°	112.4	100.7	89.0	77.4	65.6	58.7	56.4	54.0	51.8	49.5	48.6
82.5°	85.1	76.0	67.0	57.8	48.7	43.3	41.8	40.2	38.7	37.2	36.6
85°	44.3	39.5	34.7	29.9	25.0	22.3	21.6	21.0	20.3	19.6	19.6
87.5°	13.3	12.3	11.5	10.4	9.2	9.0	9.8	10.9	11.8	11.9	11.6
90°	0.8	3.1	6.4	7.9	9.5	11.8	15.8	21.3	26.1	26.9	26.1
92.5°	9.6	13.9	19.6	23.0	28.4	35.9	53.7	78.8	101.2	102.6	86.6
95°	27.7	30.8	38.7	45.7	58.4	77.4	113.7	182.4	274.0	309.4	270.7
97.5°	45.0	49.3	57.7	68.4	82.9	104.3	150.0	245.7	397.9	528.3	554.2
100°	60.8	63.1	70.3	82.9	98.7	120.8	162.6	258.9	429.4	623.6	737.3
102.5°	75.3	77.1	84.1	96.7	113.2	135.3	174.0	259.5	417.5	626.8	805.5
105°	96.3	99.5	105.0	116.8	134.2	156.3	193.4	263.7	393.9	584.9	795.0
107.5°	119.1	121.6	126.9	137.8	155.0	177.3	213.3	274.6	382.2	540.1	725.6
110°	134.2	137.3	142.1	152.4	169.0	191.9	226.5	283.4	379.7	518.7	682.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	148.0	151.3	156.6	166.2	182.2	205.7	239.2	292.9	380.3	504.7	651.8
115°	169.8	173.7	178.4	187.8	203.7	225.0	258.9	307.1	383.6	489.5	614.2
117.5°	192.2	195.3	200.1	208.4	223.6	245.7	277.1	322.2	389.3	482.0	590.5
120°	206.0	209.2	213.9	221.1	236.8	258.9	289.7	332.3	393.1	477.6	577.8
122.5°	219.3	221.9	226.5	234.3	250.0	272.9	301.7	341.2	397.6	475.0	567.1
125°	236.8	239.2	243.9	253.4	269.2	291.2	319.7	355.3	404.1	470.5	551.8
127.5°	250.7	253.9	260.5	270.9	286.1	308.8	336.5	368.3	411.0	467.8	537.6
130°	258.9	262.1	269.9	281.0	296.8	318.9	346.6	376.6	416.1	466.6	528.2
132.5°	266.5	270.3	278.8	290.5	306.9	329.0	355.4	384.8	421.1	466.0	520.6
135°	277.9	281.0	290.5	302.4	320.5	342.6	367.9	395.5	427.1	464.9	510.0
137.5°	288.6	292.4	301.8	314.5	332.5	353.0	378.0	403.7	432.4	464.8	502.5
140°	296.8	299.9	309.4	322.0	339.4	360.0	383.6	408.1	434.9	464.1	498.2
142.5°	305.0	307.6	316.4	329.0	345.8	365.1	388.1	411.9	436.9	464.1	493.7
145°	317.3	320.5	328.4	340.2	356.0	373.3	394.8	416.8	438.9	462.6	487.9
147.5°	330.6	333.0	340.5	351.4	364.6	380.0	400.1	419.5	439.6	459.8	481.9
150°	339.4	341.8	348.1	358.4	370.2	384.5	402.6	420.7	438.9	457.9	476.8
152.5°	348.3	349.4	355.7	364.7	375.9	388.9	405.2	421.4	437.7	454.7	472.4
155°	360.7	361.5	366.3	375.0	383.6	395.5	408.9	422.3	435.8	449.2	464.1
157.5°	371.2	371.9	375.8	383.3	390.3	400.2	411.6	422.3	432.1	443.5	456.5
160°	378.1	378.9	382.0	388.4	394.8	403.3	412.8	422.3	430.2	439.7	450.8
162.5°	385.1	384.6	387.8	392.8	398.5	405.3	413.5	421.7	428.4	436.6	445.7
165°	393.1	392.3	393.9	398.7	402.6	407.4	414.4	420.0	424.7	430.2	437.4
167.5°	399.8	398.8	400.2	403.2	406.1	409.1	414.2	418.9	421.1	424.7	429.1
170°	404.1	402.6	403.3	405.8	407.4	409.7	413.6	417.6	419.2	421.5	424.7
172.5°	406.7	405.8	405.3	407.7	408.6	410.3	413.0	415.7	416.7	417.8	420.3
175°	409.7	408.9	408.1	409.7	409.7	410.5	412.0	413.6	412.8	413.6	414.4
177.5°	411.1	409.9	409.2	410.5	410.5	410.5	411.1	412.4	411.1	410.5	411.1
180°	410.5	410.5	410.5	410.5	410.5	410.5	410.5	410.5	410.5	410.5	410.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1
2.5°	1133.8	1135.6	1137.4	1138.1	1137.8	1137.4	1137.1	1136.7
5°	1124.7	1126.8	1128.8	1129.5	1128.8	1128.1	1127.5	1126.8
7.5°	1106.5	1107.1	1107.7	1107.4	1106.2	1105.1	1103.9	1102.7
10°	1088.3	1087.6	1086.9	1085.9	1084.5	1083.2	1081.8	1080.4
12.5°	1067.4	1066.2	1064.9	1063.2	1060.9	1058.6	1056.3	1054.0
15°	1028.4	1024.0	1019.7	1016.3	1014.1	1011.8	1009.5	1007.2
17.5°	984.3	979.1	973.9	969.4	965.4	961.5	957.6	953.6
20°	953.5	947.8	942.0	936.6	931.6	926.6	921.5	916.5
22.5°	919.7	912.3	904.9	899.4	895.5	891.8	888.1	884.3
25°	863.6	854.2	844.9	838.5	835.1	831.6	828.2	824.8
27.5°	810.2	799.3	788.4	780.1	774.7	769.2	763.8	758.3
30°	772.5	760.8	749.1	740.2	734.0	727.8	721.6	715.5
32.5°	734.6	721.2	707.9	698.3	692.5	686.7	680.9	675.1
35°	675.3	660.9	646.4	636.6	631.6	626.5	621.6	616.5
37.5°	617.4	601.6	585.7	574.8	569.1	563.3	557.5	551.8
40°	578.8	562.5	546.2	535.1	529.2	523.2	517.3	511.3
42.5°	539.8	522.9	506.1	494.8	489.1	483.3	477.6	471.7
45°	482.9	466.7	450.4	439.5	434.0	428.5	423.0	417.5
47.5°	427.7	411.5	395.3	384.8	379.7	374.8	369.7	364.8
50°	392.1	376.3	360.5	350.1	345.4	340.5	335.8	330.9
52.5°	358.6	343.3	328.0	318.2	313.8	309.3	304.9	300.4
55°	307.6	293.8	280.0	271.0	266.7	262.3	257.9	253.6
57.5°	261.2	248.6	236.0	227.8	224.2	220.6	216.8	213.2
60°	229.2	217.5	205.8	198.1	194.5	190.9	187.1	183.5
62.5°	201.5	190.3	179.2	172.5	170.3	168.1	165.9	163.7
65°	163.8	156.0	148.2	144.0	143.3	142.6	141.9	141.3
67.5°	132.2	128.7	125.1	122.9	122.2	121.5	120.8	120.0
70°	115.0	112.7	110.4	108.9	107.9	106.9	106.0	105.1
72.5°	100.1	98.2	96.2	95.0	94.4	93.9	93.3	92.8
75°	79.3	77.7	76.0	75.1	74.9	74.7	74.4	74.2
77.5°	60.0	59.1	58.2	57.6	57.2	56.9	56.5	56.0
80°	47.7	46.8	45.8	45.3	45.3	45.3	45.3	45.3
82.5°	36.1	35.4	34.9	34.6	34.6	34.6	34.6	34.6
85°	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
87.5°	11.3	10.8	10.9	11.0	11.0	11.0	11.0	11.0
90°	25.2	23.7	25.2	26.1	26.1	26.1	26.1	26.1
92.5°	68.9	59.1	52.4	47.6	46.9	44.3	45.0	43.7
95°	206.8	158.6	125.5	108.2	97.9	91.6	89.2	90.0
97.5°	482.6	394.9	309.4	252.5	214.7	195.3	183.8	177.1
100°	720.7	622.9	514.7	419.2	353.7	319.7	296.8	282.6
102.5°	876.8	854.6	775.5	674.3	603.1	545.1	516.5	497.4
105°	959.2	1048.3	1058.6	1032.6	983.6	934.6	900.7	889.7
107.5°	899.8	1034.1	1116.2	1154.5	1160.6	1157.9	1151.1	1136.4
110°	848.6	990.0	1091.0	1155.7	1189.6	1204.7	1211.7	1210.9



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CATALOG NUMBER: SA2XXRDIP-C675D725U840-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	801.9	937.5	1045.5	1119.7	1166.9	1192.0	1205.5	1209.7
115°	744.4	866.0	969.4	1050.7	1106.7	1143.1	1163.6	1170.7
117.5°	701.1	807.9	901.7	978.0	1035.1	1073.5	1095.1	1101.1
120°	679.6	777.6	861.2	933.1	988.4	1025.4	1048.3	1056.2
122.5°	662.7	752.3	831.5	896.5	946.0	982.5	1002.9	1009.5
125°	637.8	719.1	788.6	847.8	893.6	923.6	943.3	949.7
127.5°	613.4	686.9	752.5	807.1	847.1	875.1	892.2	897.3
130°	597.5	665.5	727.8	779.9	818.6	845.5	861.2	867.6
132.5°	582.4	645.3	702.6	751.5	789.6	816.4	830.9	836.6
135°	561.3	613.4	665.5	709.6	743.7	769.7	783.9	787.1
137.5°	544.4	587.9	629.3	667.8	698.8	721.2	733.7	738.4
140°	533.6	571.6	607.8	642.6	667.8	688.3	700.2	705.0
142.5°	524.8	557.0	588.2	617.3	641.4	659.9	670.6	671.5
145°	512.3	538.4	562.9	585.7	604.7	618.1	626.0	628.3
147.5°	502.7	523.2	542.3	559.1	574.7	585.4	590.8	592.2
150°	495.7	513.1	529.7	543.9	555.7	565.2	570.0	570.8
152.5°	488.8	504.9	519.0	531.3	540.6	548.8	552.3	552.4
155°	479.2	491.8	503.6	512.3	521.0	526.5	529.7	528.2
157.5°	468.0	478.6	488.5	495.2	501.4	506.0	507.5	507.5
160°	461.0	469.7	478.4	483.9	489.5	493.4	494.1	494.1
162.5°	454.0	461.5	468.9	473.2	478.7	481.4	482.2	481.5
165°	443.6	449.2	454.7	457.9	461.0	464.1	464.1	463.4
167.5°	433.7	438.0	441.7	444.6	446.1	447.8	447.6	446.7
170°	428.7	431.0	434.1	435.8	436.6	438.9	438.1	436.6
172.5°	422.9	424.7	427.3	428.2	429.0	430.1	429.3	428.4
175°	416.8	417.6	418.4	419.2	419.2	420.0	419.2	417.6
177.5°	412.4	412.4	413.0	413.0	413.0	413.0	412.4	411.1
180°	410.5	410.5	410.5	410.5	410.5	410.5	410.5	410.5

(END OF REPORT)