

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: P332657-930

Luminaire Tested: **SA4XXDIP-C1020D1035U930-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332657-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA4XXDIP-C1020D1035U930-4F0-1E-UDD-D4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1035 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6446.8 lumens  
Efficiency: N/A  
Efficacy: 106.6 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: General Diffuse

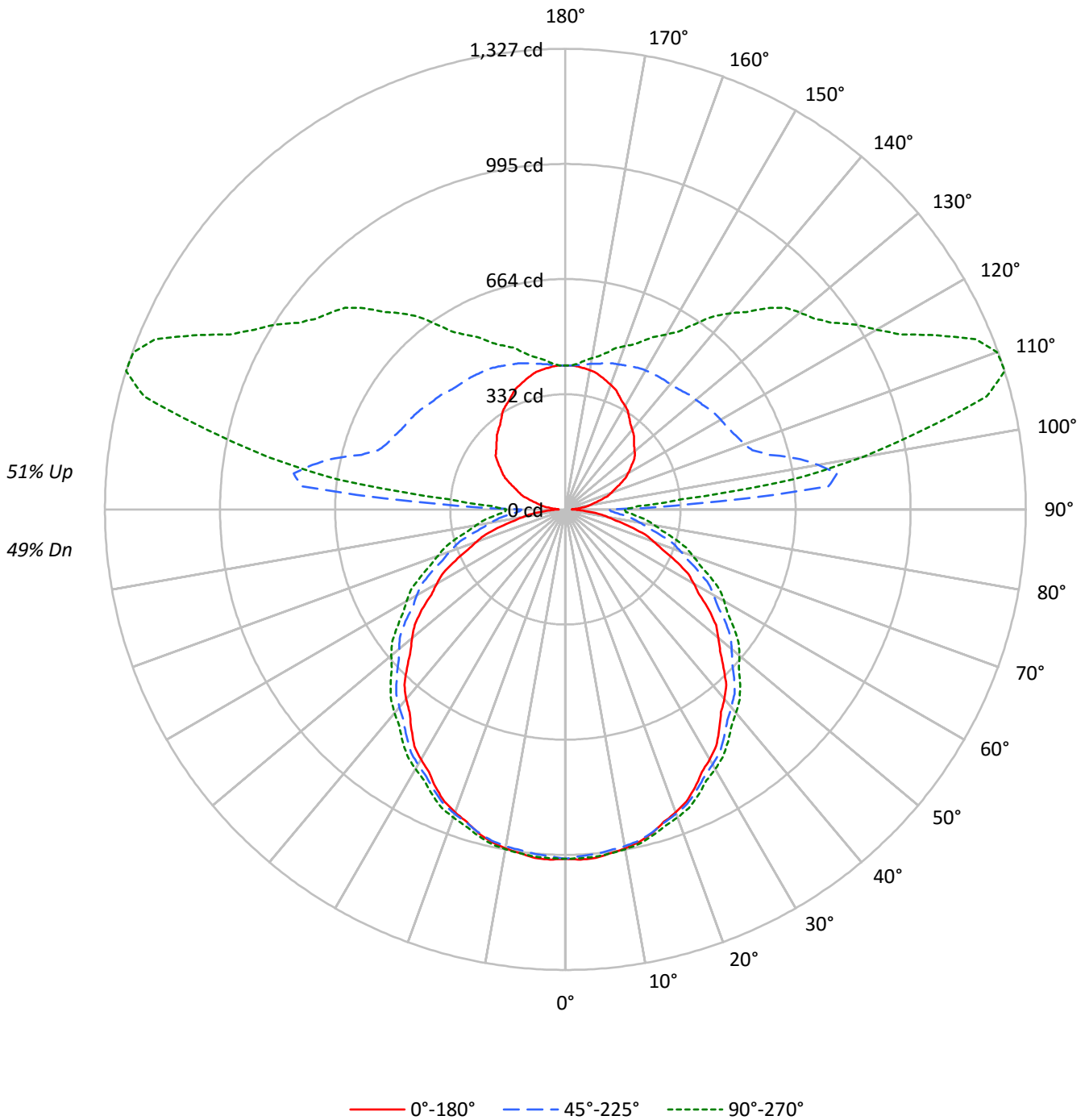
Input Watts (W): 60.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	55	55	55	49				49
1	97	92	88	84	89	85	81	78	71	68	66	59	57	55	47	46	45				39	
2	88	80	73	68	80	73	68	63	62	58	54	51	48	45	41	39	37				32	
3	80	70	62	56	73	64	57	52	54	49	45	45	41	38	36	33	31				27	
4	73	61	53	47	66	57	49	44	48	42	38	40	35	32	32	29	26				23	
5	67	55	46	40	61	50	43	37	43	37	32	35	31	28	29	25	23				19	
6	61	49	40	34	56	45	38	32	38	32	28	32	27	24	26	23	20				17	
7	57	44	36	30	52	41	33	28	35	29	25	29	24	21	24	20	18				15	
8	52	40	32	26	48	37	30	25	32	26	22	26	22	19	22	18	16				13	
9	49	36	29	23	45	34	27	22	29	23	19	24	20	17	20	17	14				12	
10	46	33	26	21	42	31	24	20	27	21	17	22	18	15	19	15	13				11	

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	8127	8127	8127
5°	8151	7942	7965
10°	8102	7812	7807
15°	8029	7662	7620
20°	7920	7496	7438
25°	7797	7310	7239
30°	7663	7125	7034
35°	7511	6935	6855
40°	7390	6755	6667
45°	7210	6588	6507
50°	7059	6397	6337
55°	6902	6217	6138
60°	6657	5986	5956
65°	6389	5740	5734
70°	6066	5458	5474
75°	5612	5146	5239
80°	5110	4847	5007
85°	4474	4583	4872



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	95.3	1.5
10°-20°	273.1	4.2
20°-30°	413.0	6.4
30°-40°	499.7	7.8
40°-50°	528.2	8.2
50°-60°	497.1	7.7
60°-70°	412.5	6.4
70°-80°	289.7	4.5
80°-90°	166.1	2.6
90°-100°	396.5	6.2
100°-110°	694.8	10.8
110°-120°	606.1	9.4
120°-130°	496.5	7.7
130°-140°	403.0	6.3
140°-150°	301.3	4.7
150°-160°	210.1	3.3
160°-170°	123.6	1.9
170°-180°	40.2	0.6
0°-30°	781.4	12.1
0°-40°	1281.1	19.9
0°-60°	2306.5	35.8
0°-90°	3174.7	49.2
90°-120°	1697.4	26.3
90°-150°	2898.2	45.0
90°-180°	3272.0	50.8
0°-180°	6446.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1007	1007	1007	1007	1007	
5°	1008	1004	996	1005	1004	96
15°	966	967	964	973	973	272
25°	884	890	894	906	907	407
35°	773	787	798	813	817	484
45°	645	666	688	706	712	498
55°	505	529	562	584	592	450
65°	349	386	424	451	461	346
75°	194	236	283	313	325	206
85°	60	107	158	190	203	64
90°	19	70	126	159	170	13
95°	42	137	761	456	337	42
105°	105	172	608	1251	1257	113
115°	174	229	529	992	1185	173
125°	238	283	505	831	937	212
135°	280	333	480	719	820	217
145°	321	366	467	589	652	202
155°	364	393	454	514	536	168
165°	396	409	436	461	468	112
175°	413	414	418	423	422	39
180°	414	414	414	414	414	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7
2.5°	1010.2	1009.7	1009.0	1008.4	1007.8	1006.7	1005.1	1003.6	1001.9	1000.3	1001.7
5°	1007.7	1007.0	1006.2	1005.5	1004.8	1003.5	1001.8	1000.0	998.3	996.5	998.5
7.5°	999.1	998.7	998.3	997.8	997.4	996.5	995.0	993.5	992.1	990.6	992.9
10°	992.0	991.7	991.5	991.2	991.0	990.2	989.0	987.7	986.4	985.2	987.5
12.5°	982.0	982.0	981.9	981.9	981.9	981.4	980.6	979.7	978.8	978.0	980.1
15°	966.0	966.3	966.5	966.8	967.0	966.8	966.0	965.3	964.5	963.8	966.0
17.5°	944.2	944.9	945.7	946.4	947.2	947.5	947.3	947.2	947.1	946.9	949.2
20°	928.9	929.6	930.3	931.1	931.9	932.4	932.6	932.9	933.1	933.4	935.9
22.5°	911.7	912.6	913.6	914.6	915.5	916.2	916.6	917.1	917.5	918.0	920.6
25°	883.8	885.3	886.7	888.3	889.7	890.9	891.6	892.4	893.2	893.9	896.7
27.5°	852.6	854.8	857.0	859.2	861.4	863.2	864.3	865.4	866.6	867.7	870.3
30°	831.9	833.9	835.9	837.9	839.9	841.8	843.5	845.3	847.0	848.8	851.6
32.5°	809.3	811.8	814.2	816.6	819.0	821.2	823.1	825.1	827.0	829.0	832.1
35°	773.3	776.3	779.3	782.3	785.3	788.1	790.6	793.0	795.6	798.1	801.6
37.5°	736.9	740.5	743.9	747.4	750.8	754.1	757.2	760.3	763.4	766.5	770.1
40°	713.5	716.8	720.1	723.3	726.6	729.9	733.4	736.9	740.5	744.0	747.7
42.5°	686.5	690.2	693.8	697.5	701.1	705.0	709.1	713.2	717.3	721.5	725.6
45°	644.7	649.5	654.3	659.1	663.8	668.5	673.4	678.1	682.8	687.6	691.9
47.5°	604.9	609.8	614.7	619.6	624.5	629.7	635.2	640.7	646.3	651.8	656.2
50°	576.0	581.6	587.0	592.6	598.0	603.6	609.1	614.6	620.1	625.6	630.6
52.5°	547.1	552.7	558.2	563.7	569.2	575.1	581.4	587.7	594.0	600.4	605.4
55°	505.0	510.3	515.5	520.8	526.0	532.4	540.0	547.5	555.0	562.5	567.5
57.5°	457.9	464.4	470.9	477.4	484.0	490.9	498.4	505.9	513.3	520.8	526.8
60°	427.2	433.7	440.3	446.8	453.3	460.6	469.0	477.2	485.4	493.7	499.5
62.5°	397.5	404.6	411.7	418.8	425.9	433.6	441.9	450.1	458.4	466.7	472.5
65°	349.4	357.4	365.5	373.5	381.5	389.8	398.3	406.8	415.3	423.9	430.1
67.5°	303.2	311.8	320.2	328.8	337.3	346.1	355.2	364.4	373.5	382.6	389.0
70°	271.7	280.2	288.7	297.2	305.7	314.8	324.2	333.8	343.3	352.9	359.6
72.5°	241.0	249.7	258.4	267.2	275.9	285.3	295.4	305.5	315.7	325.8	332.3
75°	193.9	203.2	212.4	221.7	231.0	240.8	251.4	261.9	272.4	282.9	289.9
77.5°	149.9	159.7	169.6	179.4	189.2	199.6	210.7	221.7	232.7	243.7	250.8
80°	122.9	132.9	142.9	153.0	163.0	173.5	184.5	195.5	206.5	217.5	225.1
82.5°	95.8	106.2	116.7	127.1	137.5	148.2	159.2	170.2	181.3	192.3	200.0
85°	59.8	70.3	80.8	91.3	101.8	112.8	124.0	135.3	146.5	157.8	165.3
87.5°	33.5	44.1	54.8	65.1	75.6	86.2	98.1	109.1	120.3	131.7	138.8
90°	18.8	30.5	43.0	53.8	64.7	75.0	90.7	101.4	113.8	126.2	132.7
92.5°	26.4	39.6	56.3	75.3	96.2	123.0	175.1	249.1	321.4	364.4	328.3
95°	41.5	52.3	68.6	87.5	115.3	158.7	239.8	383.6	588.4	761.4	786.9
97.5°	61.5	68.6	82.8	99.6	123.4	160.8	225.4	345.8	549.4	789.8	954.6
100°	74.3	80.8	92.9	109.3	131.3	165.4	223.2	325.0	500.8	740.0	955.2
102.5°	87.3	94.3	105.1	119.8	140.4	172.8	225.8	316.3	467.2	680.2	901.6
105°	105.3	112.8	121.9	136.6	156.4	187.1	235.5	312.3	435.5	608.3	805.8
107.5°	127.6	133.4	141.5	156.0	174.1	203.9	248.4	318.8	424.9	565.3	727.6
110°	141.7	146.8	154.4	167.7	185.8	213.9	258.5	324.2	422.6	549.3	687.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	155.1	159.9	167.7	179.9	197.6	225.3	268.2	330.4	422.3	539.0	662.9
115°	174.4	179.1	187.1	197.5	215.2	242.3	282.9	339.7	423.5	529.1	637.2
117.5°	195.7	199.3	205.7	216.1	231.9	259.1	297.5	349.8	425.2	521.5	621.7
120°	209.1	211.5	217.9	227.6	242.2	269.0	307.2	356.9	426.7	517.1	612.4
122.5°	222.2	223.9	229.8	238.2	253.5	279.2	316.9	363.5	428.5	511.8	602.7
125°	238.1	241.1	245.7	254.5	269.6	295.5	331.0	374.7	432.3	505.2	588.2
127.5°	253.0	255.4	261.0	271.0	286.8	312.1	345.2	384.4	434.0	496.7	569.6
130°	260.6	263.6	269.9	281.8	297.0	322.5	354.2	390.0	435.5	491.5	557.9
132.5°	269.0	271.4	279.6	290.9	307.4	331.3	362.1	396.4	437.2	487.3	547.6
135°	279.8	283.1	291.2	305.0	322.1	344.1	372.8	403.8	439.0	479.8	531.0
137.5°	291.7	294.6	303.2	316.2	333.6	354.2	380.1	408.3	438.7	474.4	517.0
140°	300.1	302.3	311.0	324.7	341.4	361.0	385.6	412.0	439.9	471.1	509.3
142.5°	308.3	310.8	319.0	332.2	348.5	367.3	390.9	414.9	441.1	469.3	503.2
145°	321.0	323.2	331.1	342.3	357.4	375.2	396.4	418.3	442.0	467.2	494.7
147.5°	335.5	336.1	343.0	354.4	367.0	383.0	402.9	422.1	442.8	464.2	487.4
150°	344.6	345.2	351.4	360.9	372.9	388.2	406.2	424.0	442.8	462.3	482.7
152.5°	352.1	352.3	358.7	367.8	378.6	392.8	408.8	425.3	441.5	459.0	477.4
155°	363.8	364.6	369.5	377.6	386.6	398.8	412.6	426.5	439.5	454.2	469.6
157.5°	375.4	375.4	379.9	386.3	394.1	403.7	415.4	426.5	437.4	449.1	461.6
160°	382.5	382.5	385.8	391.5	398.0	407.0	416.7	426.5	435.5	445.2	455.8
162.5°	389.1	388.4	391.0	396.1	401.9	409.0	418.0	426.5	433.5	441.3	450.6
165°	396.4	396.4	398.0	402.1	406.2	411.0	418.3	424.9	429.7	435.5	442.0
167.5°	403.7	402.9	403.7	406.8	409.1	412.8	418.2	422.9	425.8	429.6	434.1
170°	407.0	406.2	407.0	409.4	411.0	413.4	417.5	421.6	423.2	425.7	428.9
172.5°	410.2	409.4	409.5	411.3	412.3	414.1	416.9	420.3	420.6	421.8	424.4
175°	413.4	412.6	412.6	413.4	414.3	414.3	415.9	418.3	417.5	417.5	419.1
177.5°	414.9	414.3	413.6	414.3	414.3	414.3	414.9	416.2	414.9	414.9	415.6
180°	414.3	414.3	414.3	414.3	414.3	414.3	414.3	414.3	414.3	414.3	414.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7
2.5°	1003.1	1004.5	1005.9	1006.5	1006.3	1006.1	1005.9	1005.8
5°	1000.5	1002.5	1004.5	1005.3	1005.1	1004.9	1004.6	1004.4
7.5°	995.2	997.4	999.6	1000.6	1000.4	1000.1	999.9	999.6
10°	989.7	992.0	994.3	995.2	995.0	994.7	994.5	994.3
12.5°	982.1	984.1	986.2	987.2	987.2	987.1	987.1	987.0
15°	968.3	970.5	972.8	973.8	973.5	973.3	973.1	972.8
17.5°	951.5	953.8	956.1	957.2	956.9	956.8	956.5	956.3
20°	938.3	940.9	943.4	944.6	944.6	944.6	944.6	944.6
22.5°	923.0	925.5	928.1	929.5	929.9	930.3	930.7	931.1
25°	899.4	902.1	904.9	906.4	906.7	906.9	907.2	907.4
27.5°	872.9	875.4	878.0	879.4	879.7	880.0	880.3	880.6
30°	854.4	857.0	859.8	861.4	861.9	862.4	863.0	863.5
32.5°	835.3	838.5	841.6	843.4	843.9	844.4	844.9	845.5
35°	805.1	808.6	812.1	814.2	815.0	815.7	816.5	817.3
37.5°	773.6	777.2	780.7	782.9	783.7	784.6	785.3	786.1
40°	751.5	755.2	759.0	761.4	762.4	763.4	764.4	765.4
42.5°	729.8	733.9	738.1	740.5	741.4	742.2	743.0	743.7
45°	696.1	700.4	704.7	707.4	708.7	709.9	711.2	712.4
47.5°	660.6	665.0	669.4	672.4	673.8	675.4	676.9	678.4
50°	635.6	640.7	645.6	648.9	650.4	651.9	653.4	654.9
52.5°	610.4	615.4	620.4	623.6	625.2	626.6	628.2	629.7
55°	572.5	577.6	582.5	585.8	587.3	588.8	590.3	591.8
57.5°	532.7	538.7	544.6	548.3	549.7	551.1	552.5	553.9
60°	505.2	511.0	516.7	520.7	522.7	524.6	526.7	528.6
62.5°	478.2	484.0	489.8	493.6	495.6	497.6	499.6	501.7
65°	436.3	442.6	448.9	453.1	455.0	457.1	459.0	461.1
67.5°	395.3	401.7	408.1	412.2	414.2	416.1	418.1	420.0
70°	366.3	373.1	379.8	384.2	385.9	387.7	389.4	391.2
72.5°	338.9	345.4	352.0	356.3	358.2	360.2	362.2	364.1
75°	296.9	303.9	311.0	315.6	317.9	320.2	322.4	324.7
77.5°	258.0	265.1	272.1	277.0	279.3	281.8	284.1	286.6
80°	232.6	240.1	247.6	252.3	254.4	256.4	258.4	260.4
82.5°	207.7	215.5	223.1	228.1	230.3	232.5	234.7	236.9
85°	172.8	180.3	187.8	192.9	195.4	197.9	200.4	202.9
87.5°	146.2	153.6	161.0	165.8	168.1	170.5	172.5	174.7
90°	140.8	148.9	156.9	161.6	164.4	167.2	168.4	170.4
92.5°	280.1	247.7	230.2	218.4	210.8	208.4	207.7	209.7
95°	714.7	595.3	493.0	418.6	380.9	358.0	345.6	337.2
97.5°	995.3	955.0	881.9	801.3	745.0	698.2	675.9	661.1
100°	1080.8	1103.8	1070.7	1014.7	945.7	897.8	875.1	870.3
102.5°	1071.3	1158.6	1176.7	1155.9	1114.4	1080.4	1056.6	1053.4
105°	998.5	1145.6	1232.4	1269.9	1273.6	1269.1	1259.6	1256.8
107.5°	898.8	1054.9	1174.5	1251.2	1293.1	1313.5	1323.5	1327.4
110°	838.5	985.0	1108.8	1202.2	1262.0	1298.2	1314.8	1324.1





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CATALOG NUMBER: SA4XXDIP-C1020D1035U930-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	792.5	922.6	1039.7	1132.9	1200.5	1243.9	1266.4	1280.3
115°	744.4	850.0	950.8	1032.6	1098.6	1149.2	1177.0	1185.3
117.5°	716.9	804.9	885.1	954.9	1011.8	1054.8	1083.2	1090.2
120°	702.9	783.6	853.7	915.0	963.4	1001.2	1024.3	1035.3
122.5°	690.6	768.7	832.9	887.0	928.0	960.3	980.1	990.8
125°	671.1	745.8	806.7	854.6	888.7	913.8	930.7	937.2
127.5°	647.5	718.9	779.4	825.0	859.5	882.2	896.9	903.4
130°	630.0	698.8	758.6	804.8	839.7	861.5	876.0	882.4
132.5°	612.3	677.0	735.3	781.4	815.6	840.1	853.9	860.3
135°	586.3	643.2	696.8	740.3	774.4	798.7	813.2	819.5
137.5°	563.3	611.7	657.2	696.4	728.1	751.9	763.9	770.9
140°	550.0	591.5	631.4	667.9	697.6	716.7	729.4	737.2
142.5°	538.3	574.9	609.1	640.7	667.0	684.7	695.8	701.4
145°	522.3	551.5	577.4	601.4	622.8	637.6	646.8	651.8
147.5°	509.1	531.2	551.0	569.4	585.2	597.9	604.9	607.2
150°	502.2	520.9	537.2	551.9	564.8	575.4	580.3	581.1
152.5°	495.0	511.1	526.1	538.2	549.3	557.8	560.8	561.6
155°	484.3	497.3	509.5	519.3	527.4	533.9	536.4	536.4
157.5°	472.7	483.6	493.9	501.7	507.8	512.7	514.2	514.2
160°	465.5	474.5	483.5	490.0	494.9	499.8	500.6	500.6
162.5°	458.4	466.0	473.0	478.9	482.5	487.4	488.2	487.5
165°	448.5	453.4	459.0	463.1	466.4	469.6	468.8	468.0
167.5°	438.9	442.6	447.2	449.6	451.3	453.4	453.2	452.6
170°	433.0	435.5	438.7	441.2	442.8	443.6	442.8	442.8
172.5°	427.8	429.6	431.5	433.3	434.3	435.1	434.3	433.0
175°	420.8	421.6	423.2	423.2	423.2	424.9	423.2	421.6
177.5°	416.2	416.9	416.9	417.5	416.9	417.5	416.2	414.9
180°	414.3	414.3	414.3	414.3	414.3	414.3	414.3	414.3

(END OF REPORT)