

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: P331415-830

Luminaire Tested: **SA2XXDIP-C865D1080U830-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331415-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C865D1080U830-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6925.3 lumens
Efficiency: N/A
Efficacy: 105.9 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

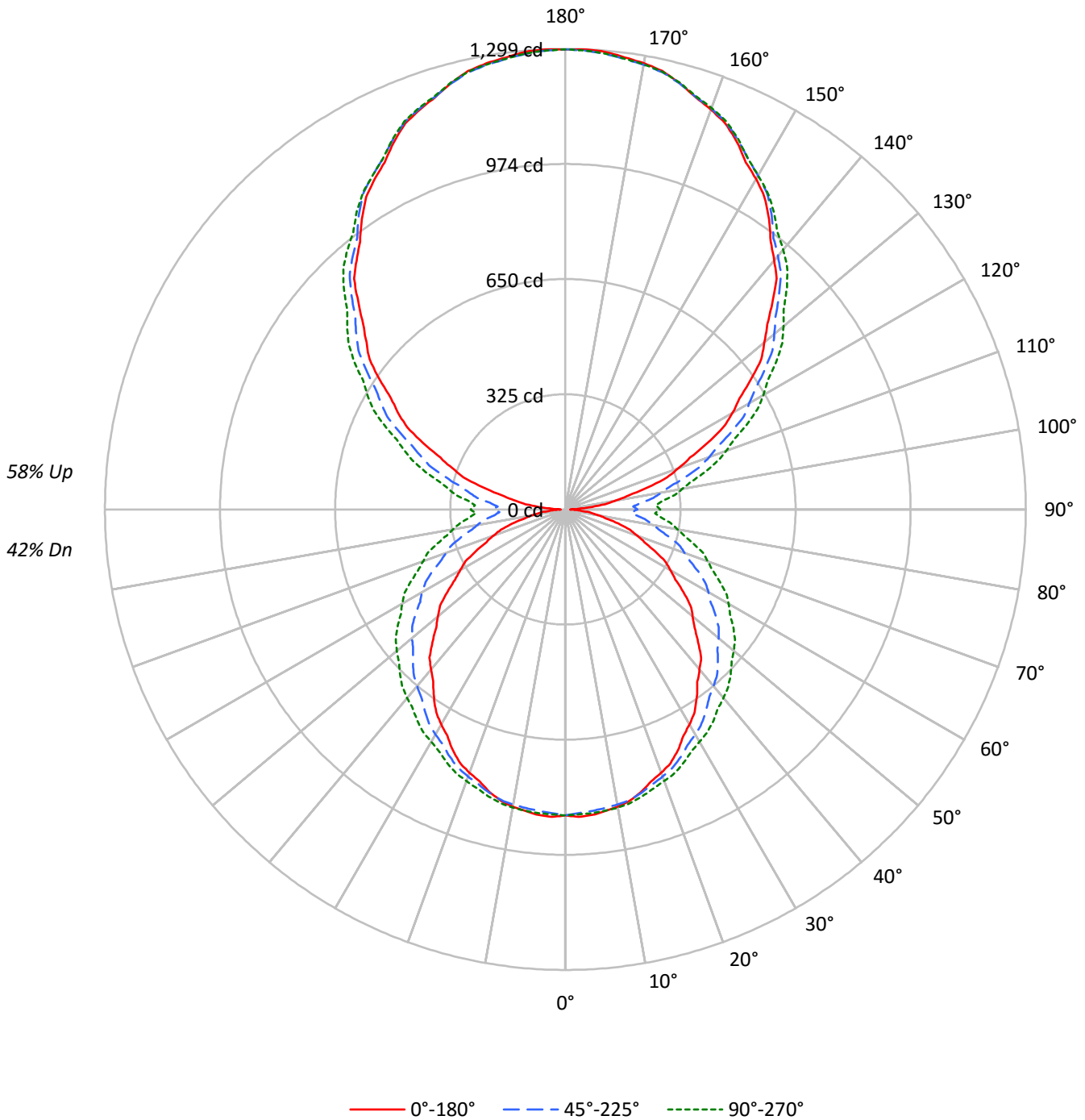
Input Watts (W): 65.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	105	105	105	105	96	96	96	96	79	79	79	63	63	63	49	49	49	42
1	95	90	86	82	86	82	78	75	67	65	62	54	52	50	41	40	39	33
2	86	78	71	66	78	71	65	60	58	54	50	46	43	41	36	34	32	27
3	78	68	60	54	71	62	55	50	51	46	42	41	37	34	31	29	26	22
4	71	60	52	45	64	55	47	42	45	40	35	36	32	29	28	25	22	18
5	65	53	45	38	59	49	41	36	40	34	30	32	28	25	25	22	19	16
6	60	47	39	33	54	43	36	31	36	30	26	29	25	21	22	19	17	14
7	55	43	35	29	50	39	32	27	32	27	23	26	22	19	20	17	15	12
8	51	39	31	25	46	35	28	24	29	24	20	24	20	17	19	16	13	11
9	48	35	28	22	43	32	26	21	27	22	18	22	18	15	17	14	12	10
10	44	32	25	20	40	30	23	19	25	20	16	20	16	13	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13934	13934	13934
5°	14000	13412	13361
10°	13914	13017	12870
15°	13722	12596	12353
20°	13478	12147	11855
25°	13241	11713	11401
30°	12903	11268	10947
35°	12562	10837	10627
40°	12203	10472	10307
45°	11862	10143	10033
50°	11495	9847	9765
55°	11112	9528	9489
60°	10644	9199	9199
65°	10156	8809	8853
70°	9605	8393	8482
75°	8902	7984	8141
80°	7800	7568	7791
85°	6748	7205	7523



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.8	1.2
10°-20°	234.5	3.4
20°-30°	355.3	5.1
30°-40°	432.8	6.2
40°-50°	465.6	6.7
50°-60°	452.2	6.5
60°-70°	394.8	5.7
70°-80°	304.0	4.4
80°-90°	209.2	3.0
90°-100°	222.7	3.2
100°-110°	358.0	5.2
110°-120°	504.2	7.3
120°-130°	611.8	8.8
130°-140°	660.0	9.5
140°-150°	634.4	9.2
150°-160°	529.8	7.7
160°-170°	351.4	5.1
170°-180°	122.8	1.8
0°-30°	671.6	9.7
0°-40°	1104.4	15.9
0°-60°	2022.2	29.2
0°-90°	2930.1	42.3
90°-120°	1084.9	15.7
90°-150°	2991.1	43.2
90°-180°	3995.0	57.7
0°-180°	6925.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	863	863	863	863	863	
5°	865	862	854	861	860	82
15°	826	828	828	839	838	232
25°	750	759	770	785	789	345
35°	647	668	692	718	728	404
45°	530	565	608	645	659	409
55°	406	453	516	560	578	363
65°	278	340	413	462	480	276
75°	154	224	304	356	374	163
85°	45	123	203	253	273	48
90°	14	100	203	250	267	11
95°	67	137	214	260	274	73
105°	242	283	348	393	408	256
115°	443	465	517	552	564	438
125°	640	651	686	716	727	572
135°	826	838	852	877	884	638
145°	1001	1008	1015	1023	1025	625
155°	1144	1147	1151	1156	1153	526
165°	1245	1244	1244	1251	1246	351
175°	1295	1292	1290	1297	1291	123
180°	1297	1297	1297	1297	1297	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0
2.5°	868.0	867.3	866.7	866.0	865.3	864.2	862.6	861.1	859.5	858.0	859.1
5°	865.4	864.7	863.8	863.0	862.1	860.9	859.2	857.5	855.9	854.2	855.9
7.5°	857.7	857.1	856.6	856.1	855.5	854.6	853.3	852.1	850.7	849.5	851.5
10°	851.8	851.2	850.6	850.1	849.5	848.9	848.0	847.2	846.3	845.5	847.7
12.5°	841.7	841.9	842.0	842.1	842.2	841.9	841.3	840.7	840.1	839.4	841.7
15°	825.5	826.0	826.6	827.2	827.6	827.9	827.9	827.9	827.9	827.9	830.5
17.5°	804.5	805.6	806.8	807.9	809.1	810.1	811.1	811.9	812.8	813.7	816.3
20°	790.4	791.8	793.2	794.7	796.0	797.3	798.3	799.5	800.6	801.7	804.7
22.5°	775.4	777.0	778.6	780.2	781.8	783.4	785.0	786.6	788.2	789.7	792.8
25°	750.5	752.3	754.3	756.3	758.2	760.4	762.9	765.4	767.9	770.4	773.7
27.5°	720.4	723.6	726.7	729.9	733.1	736.1	739.0	742.1	745.0	747.9	752.1
30°	700.4	704.0	707.7	711.2	714.8	718.5	722.1	725.7	729.3	732.9	737.4
32.5°	678.3	682.4	686.5	690.6	694.7	698.8	703.0	707.4	711.6	715.9	721.0
35°	646.6	651.3	656.1	660.8	665.5	670.5	675.8	681.1	686.4	691.6	697.8
37.5°	612.1	617.6	623.0	628.4	633.9	640.0	646.9	653.7	660.5	667.4	674.2
40°	589.1	595.2	601.3	607.5	613.5	620.4	627.8	635.4	642.9	650.4	657.6
42.5°	567.0	573.2	579.3	585.4	591.5	598.9	607.5	616.1	624.7	633.4	641.2
45°	530.3	537.8	545.3	552.8	560.3	568.9	578.6	588.4	598.1	607.8	616.4
47.5°	494.0	502.2	510.4	518.6	526.7	536.5	547.9	559.3	570.7	582.1	591.1
50°	469.0	477.6	486.3	494.8	503.5	514.1	526.5	539.0	551.6	564.1	573.5
52.5°	445.0	454.0	463.2	472.2	481.3	492.4	505.6	518.7	531.9	545.1	554.7
55°	406.5	416.5	426.5	436.5	446.5	458.7	473.2	487.7	502.1	516.5	526.5
57.5°	368.4	379.8	391.1	402.3	413.6	426.6	441.3	456.1	470.8	485.5	496.3
60°	341.5	353.4	365.3	377.3	389.3	403.1	419.0	434.8	450.6	466.6	477.1
62.5°	317.4	329.8	342.2	354.6	367.0	381.2	397.0	412.8	428.7	444.5	455.7
65°	277.7	291.2	304.9	318.5	332.2	347.1	363.5	379.9	396.3	412.7	424.1
67.5°	241.1	255.3	269.6	283.8	298.0	313.6	330.4	347.1	363.9	380.7	392.2
70°	215.1	229.6	244.0	258.4	273.0	288.8	306.0	323.2	340.4	357.7	369.7
72.5°	191.1	206.0	220.9	235.8	250.7	266.8	284.4	301.8	319.2	336.7	348.5
75°	153.8	169.4	184.9	200.6	216.1	232.8	250.5	268.3	286.2	303.9	315.8
77.5°	117.8	134.1	150.4	166.6	182.9	200.1	218.2	236.3	254.3	272.4	284.3
80°	93.8	110.7	127.7	144.7	161.6	179.1	197.2	215.3	233.3	251.4	263.1
82.5°	73.8	90.5	107.3	123.9	140.7	158.3	176.5	194.8	213.1	231.4	243.1
85°	45.1	62.3	79.5	96.7	114.0	131.5	149.2	167.0	184.8	202.6	214.3
87.5°	24.7	41.8	59.0	76.2	93.3	111.3	130.2	149.0	167.9	186.7	198.0
90°	13.6	32.6	51.7	70.7	89.7	110.8	134.0	157.1	180.3	203.4	214.1
92.5°	31.0	48.2	65.3	82.5	99.6	117.3	135.7	154.1	172.5	190.9	201.9
95°	66.9	82.5	97.9	113.4	128.9	145.2	162.4	179.6	196.7	213.9	224.4
97.5°	112.7	126.5	140.3	154.0	167.8	183.1	200.1	217.0	233.9	250.9	261.2
100°	147.8	160.0	172.3	184.5	196.7	210.9	227.2	243.6	259.9	276.2	286.4
102.5°	183.6	194.5	205.5	216.4	227.4	240.9	256.9	273.0	289.0	305.1	315.3
105°	241.7	250.4	259.2	268.1	276.8	288.7	303.6	318.6	333.5	348.5	358.6
107.5°	301.4	308.9	316.4	324.0	331.5	342.1	356.0	369.9	383.7	397.5	407.1
110°	338.9	345.9	353.0	360.0	367.0	377.3	391.0	404.5	418.2	431.8	440.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	381.0	387.1	393.2	399.4	405.5	414.9	427.7	440.5	453.2	466.0	474.3
115°	442.9	447.4	451.9	456.5	461.0	469.3	481.3	493.3	505.3	517.4	525.5
117.5°	503.4	507.4	511.3	515.3	519.2	526.3	536.5	546.7	556.9	567.1	574.8
120°	544.6	547.6	550.7	553.7	556.9	563.0	572.1	581.3	590.5	599.6	607.4
122.5°	582.3	585.0	587.9	590.6	593.4	599.4	608.4	617.5	626.6	635.7	642.6
125°	639.7	641.9	644.0	646.3	648.5	653.7	661.8	670.0	678.2	686.3	693.1
127.5°	696.8	699.4	701.8	704.4	706.8	711.2	717.6	723.8	730.1	736.4	742.4
130°	732.7	735.7	738.6	741.4	744.3	748.4	753.8	759.1	764.5	769.8	776.0
132.5°	773.1	775.3	777.7	780.0	782.2	785.7	790.3	794.9	799.5	804.1	809.5
135°	825.7	828.3	831.0	833.7	836.4	839.3	842.6	845.8	849.1	852.4	858.0
137.5°	882.4	884.5	886.6	888.8	890.9	892.9	894.8	896.6	898.4	900.3	905.2
140°	916.5	918.4	920.4	922.3	924.2	926.0	927.8	929.5	931.3	933.1	937.5
142.5°	951.6	953.5	955.4	957.3	959.2	960.6	961.6	962.5	963.5	964.4	968.2
145°	1000.7	1002.4	1004.1	1005.8	1007.5	1009.1	1010.5	1012.0	1013.4	1014.9	1016.8
147.5°	1045.6	1047.6	1049.6	1051.7	1053.8	1055.3	1056.2	1057.2	1058.2	1059.1	1059.9
150°	1076.2	1077.7	1079.1	1080.6	1082.0	1083.3	1084.3	1085.2	1086.2	1087.2	1087.9
152.5°	1103.3	1104.8	1106.3	1107.8	1109.2	1110.5	1111.7	1112.9	1114.1	1115.2	1116.2
155°	1144.2	1144.8	1145.6	1146.3	1147.1	1147.7	1148.5	1149.2	1150.0	1150.7	1151.9
157.5°	1178.9	1179.4	1179.9	1180.3	1180.9	1181.3	1181.8	1182.2	1182.6	1183.1	1184.8
160°	1200.0	1200.4	1200.9	1201.4	1201.9	1202.2	1202.5	1202.8	1203.0	1203.2	1204.7
162.5°	1219.2	1219.3	1219.4	1219.5	1219.7	1219.7	1220.0	1220.2	1220.5	1220.8	1222.4
165°	1244.8	1244.6	1244.3	1244.1	1243.9	1243.8	1243.8	1243.8	1243.8	1243.8	1245.5
167.5°	1266.3	1265.6	1264.8	1264.1	1263.4	1263.0	1262.9	1262.9	1262.8	1262.8	1264.5
170°	1277.7	1277.0	1276.2	1275.4	1274.8	1274.3	1274.0	1273.8	1273.6	1273.3	1275.0
172.5°	1285.5	1284.9	1284.1	1283.4	1282.6	1282.1	1282.0	1281.7	1281.4	1281.2	1282.9
175°	1295.2	1294.5	1293.7	1293.0	1292.3	1291.7	1291.2	1290.7	1290.2	1289.7	1291.5
177.5°	1299.1	1298.5	1298.0	1297.4	1296.8	1296.3	1295.9	1295.5	1295.1	1294.8	1295.9
180°	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0
2.5°	860.2	861.3	862.4	862.8	862.3	861.9	861.4	861.0
5°	857.5	859.2	860.9	861.6	861.3	861.0	860.7	860.4
7.5°	853.5	855.5	857.5	858.4	858.1	857.8	857.5	857.2
10°	849.9	852.2	854.4	855.4	855.1	854.8	854.5	854.2
12.5°	844.0	846.1	848.4	849.3	849.0	848.8	848.5	848.2
15°	832.9	835.5	838.0	839.1	838.8	838.5	838.2	838.0
17.5°	819.0	821.5	824.2	825.5	825.5	825.5	825.5	825.5
20°	807.9	810.9	813.9	815.5	815.5	815.5	815.5	815.5
22.5°	795.8	798.9	801.9	803.7	804.1	804.6	805.0	805.5
25°	777.1	780.4	783.8	785.9	786.6	787.5	788.3	789.2
27.5°	756.4	760.6	764.8	767.2	767.9	768.5	769.1	769.7
30°	741.8	746.2	750.7	753.4	754.1	755.0	755.8	756.7
32.5°	726.1	731.2	736.3	739.7	741.1	742.6	744.1	745.6
35°	703.9	710.0	716.1	720.1	722.1	724.1	725.9	727.9
37.5°	680.9	687.7	694.5	698.9	701.0	703.0	705.1	707.2
40°	664.8	672.0	679.3	684.1	686.6	689.1	691.6	694.2
42.5°	649.1	657.0	665.0	670.1	672.6	675.1	677.6	680.1
45°	625.1	633.7	642.3	648.0	650.8	653.6	656.4	659.1
47.5°	600.1	609.1	618.1	624.2	627.2	630.3	633.3	636.4
50°	583.0	592.4	601.9	608.1	611.1	614.3	617.3	620.4
52.5°	564.4	574.1	583.7	590.2	593.5	596.8	600.0	603.3
55°	536.6	546.6	556.6	563.4	566.9	570.6	574.2	577.8
57.5°	507.1	517.8	528.7	535.9	539.5	543.2	546.9	550.5
60°	487.7	498.2	508.8	515.9	519.9	523.8	527.6	531.6
62.5°	466.9	478.2	489.4	496.9	500.5	504.2	507.8	511.5
65°	435.5	447.0	458.4	465.8	469.4	473.1	476.6	480.2
67.5°	403.7	415.2	426.8	434.4	438.2	442.0	445.7	449.5
70°	381.6	393.5	405.5	413.1	416.5	419.8	423.2	426.5
72.5°	360.1	371.8	383.6	391.4	395.5	399.4	403.5	407.5
75°	327.8	339.8	351.8	359.5	363.2	366.7	370.3	374.0
77.5°	296.2	308.1	320.0	327.9	331.8	335.6	339.6	343.5
80°	274.8	286.4	298.1	305.9	309.7	313.7	317.5	321.4
82.5°	254.8	266.4	278.1	285.8	289.5	293.0	296.7	300.4
85°	225.9	237.6	249.3	257.1	261.0	264.9	268.7	272.7
87.5°	209.2	220.5	231.8	239.1	242.8	246.4	250.0	253.5
90°	224.7	235.3	245.9	253.1	256.7	260.2	263.8	267.4
92.5°	212.9	223.9	234.9	242.0	245.4	248.8	252.2	255.6
95°	235.1	245.6	256.2	262.9	265.7	268.5	271.4	274.3
97.5°	271.5	281.7	292.0	298.8	302.0	305.2	308.5	311.7
100°	296.7	307.0	317.3	323.9	326.7	329.5	332.2	335.1
102.5°	325.6	335.8	346.1	352.6	355.4	358.3	361.1	363.9
105°	368.8	379.1	389.3	396.0	399.0	402.0	405.1	408.1
107.5°	416.6	426.1	435.6	441.4	443.3	445.3	447.2	449.1
110°	449.6	458.5	467.4	473.0	475.3	477.7	479.9	482.3



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CATALOG NUMBER: SA2XXDIP-C865D1080U830-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	482.6	490.9	499.2	504.6	507.2	509.6	512.2	514.7
115°	533.6	541.7	549.7	555.0	557.2	559.6	561.9	564.3
117.5°	582.4	590.0	597.7	602.6	604.6	606.7	608.9	611.0
120°	615.2	623.0	630.7	635.8	638.1	640.5	642.8	645.2
122.5°	649.6	656.6	663.5	668.1	670.1	672.2	674.3	676.4
125°	699.8	706.6	713.4	717.9	720.2	722.5	724.7	727.0
127.5°	748.5	754.4	760.4	764.3	766.0	767.6	769.3	771.0
130°	782.2	788.3	794.6	798.2	799.6	800.8	802.0	803.2
132.5°	814.8	820.2	825.6	829.1	830.5	831.9	833.4	834.8
135°	863.6	869.2	874.8	878.4	879.9	881.3	882.8	884.3
137.5°	910.2	915.1	920.0	922.9	923.9	924.7	925.7	926.6
140°	942.0	946.5	950.9	953.5	954.1	954.9	955.5	956.2
142.5°	971.9	975.6	979.4	981.6	982.0	982.5	983.0	983.4
145°	1018.7	1020.7	1022.6	1023.7	1024.2	1024.5	1025.0	1025.4
147.5°	1060.6	1061.4	1062.2	1062.4	1062.2	1062.0	1061.7	1061.4
150°	1088.6	1089.4	1090.1	1090.1	1089.4	1088.6	1087.9	1087.2
152.5°	1117.1	1117.9	1118.9	1118.9	1117.9	1117.1	1116.2	1115.2
155°	1153.1	1154.3	1155.6	1155.7	1155.1	1154.3	1153.6	1152.8
157.5°	1186.4	1188.1	1189.7	1190.0	1188.7	1187.6	1186.5	1185.2
160°	1206.2	1207.6	1209.1	1209.3	1208.3	1207.4	1206.4	1205.4
162.5°	1224.1	1225.7	1227.4	1227.6	1226.4	1225.3	1224.1	1222.9
165°	1247.2	1248.9	1250.6	1250.8	1249.6	1248.4	1247.2	1245.9
167.5°	1266.2	1267.9	1269.6	1269.8	1268.6	1267.2	1266.0	1264.8
170°	1276.7	1278.4	1280.1	1280.3	1278.7	1277.3	1275.8	1274.4
172.5°	1284.6	1286.3	1288.0	1288.1	1286.7	1285.2	1283.7	1282.2
175°	1293.2	1294.9	1296.6	1296.7	1295.2	1293.7	1292.3	1290.8
177.5°	1297.1	1298.3	1299.4	1299.4	1298.3	1297.1	1295.9	1294.8
180°	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4

(END OF REPORT)