

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: P331390-927

Luminaire Tested: **SA2XXDIP-C865D530U927-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331390-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C865D530U927-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 530 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

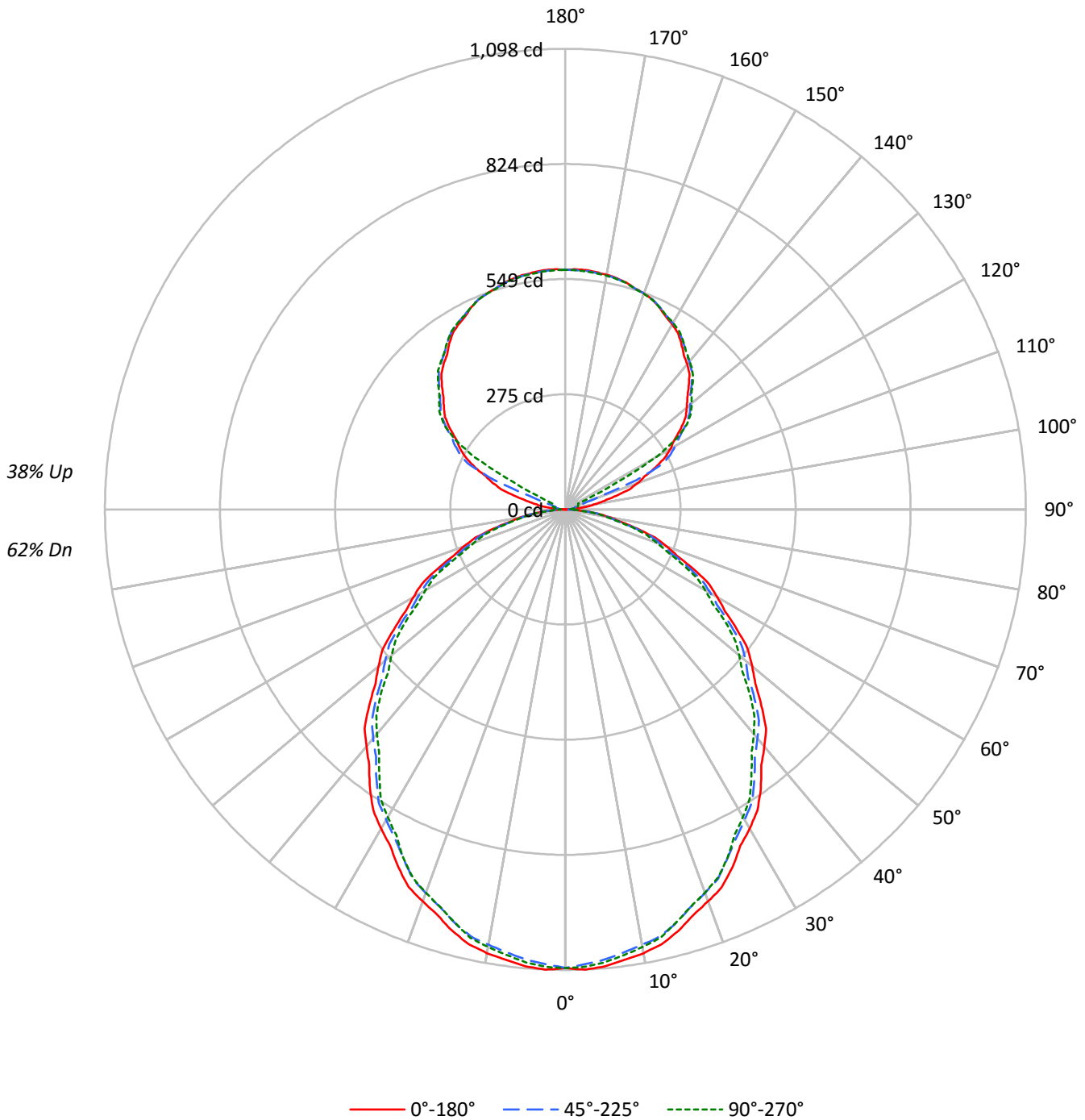
Lumens per Lamp: N/A
Luminaire Lumens: 4457.1 lumens
Efficiency: N/A
Efficacy: 91.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 48.8
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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	68	68	68	62
1	101	96	92	89	94	90	87	84	79	77	74	69	67	65	60	58	57	53
2	92	84	78	72	86	79	73	69	69	65	61	61	57	55	53	50	48	44
3	84	74	66	60	78	70	63	57	61	56	52	54	50	46	47	44	41	37
4	77	65	57	51	71	62	54	49	55	49	44	48	43	40	42	38	35	32
5	70	58	50	44	66	55	48	42	49	43	38	43	38	34	38	34	31	28
6	65	52	44	38	61	50	42	37	44	38	33	39	34	30	34	30	27	24
7	60	47	39	34	56	45	37	32	40	34	29	35	30	27	31	27	24	22
8	56	43	35	30	52	41	34	29	37	31	26	32	28	24	29	25	22	19
9	52	39	32	27	49	37	30	26	34	28	24	30	25	22	26	22	20	18
10	49	36	29	24	46	34	28	23	31	25	21	28	23	20	25	21	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17651	17651	17651
5°	17718	17462	17566
10°	17613	17285	17372
15°	17396	17061	17043
20°	17086	16725	16706
25°	16778	16311	16311
30°	16384	15933	15795
35°	16015	15477	15248
40°	15553	15022	14733
45°	15098	14570	14209
50°	14601	14099	13599
55°	14083	13551	13050
60°	13511	12897	12426
65°	12894	12248	11687
70°	12109	11462	10914
75°	11017	10555	10293
80°	9772	9484	8991
85°	7984	7595	6817



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.8	2.3
10°-20°	289.3	6.5
20°-30°	425.2	9.5
30°-40°	493.9	11.1
40°-50°	493.3	11.1
50°-60°	430.2	9.7
60°-70°	318.1	7.1
70°-80°	180.2	4.0
80°-90°	49.9	1.1
90°-100°	19.1	0.4
100°-110°	69.9	1.6
110°-120°	186.8	4.2
120°-130°	308.4	6.9
130°-140°	328.0	7.4
140°-150°	304.8	6.8
150°-160°	245.1	5.5
160°-170°	157.9	3.5
170°-180°	54.4	1.2
0°-30°	817.2	18.3
0°-40°	1311.1	29.4
0°-60°	2234.6	50.1
0°-90°	2782.7	62.4
90°-120°	275.8	6.2
90°-150°	1217.0	27.3
90°-180°	1674.0	37.6
0°-180°	4457.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1093	1093	1093	1093	1093	
5°	1093	1089	1077	1085	1084	104
15°	1041	1034	1021	1024	1020	293
25°	942	933	916	917	916	433
35°	812	802	785	779	774	507
45°	661	653	638	627	622	510
55°	500	494	481	469	464	447
65°	338	331	321	311	306	334
75°	177	174	169	163	165	189
85°	43	42	41	38	37	49
90°	0	5	8	10	11	3
95°	27	14	16	18	18	33
105°	126	131	25	30	31	134
115°	238	245	255	73	34	234
125°	336	342	349	352	354	300
135°	416	422	426	430	430	321
145°	482	482	489	492	490	302
155°	531	528	532	535	532	245
165°	560	558	558	561	558	158
175°	573	570	570	573	569	54
180°	571	571	571	571	571	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2
2.5°	1098.3	1097.3	1096.4	1095.5	1094.6	1093.1	1091.0	1088.9	1086.9	1084.8	1086.7
5°	1093.2	1092.3	1091.4	1090.4	1089.5	1087.7	1085.2	1082.6	1080.1	1077.4	1079.3
7.5°	1083.5	1082.1	1080.7	1079.2	1077.8	1075.7	1073.1	1070.5	1067.9	1065.2	1067.1
10°	1074.3	1072.7	1071.0	1069.4	1067.8	1065.6	1062.7	1059.9	1057.2	1054.3	1056.2
12.5°	1061.7	1060.3	1058.8	1057.3	1055.9	1053.8	1051.0	1048.1	1045.4	1042.6	1043.9
15°	1040.7	1039.3	1037.8	1036.5	1035.1	1032.8	1029.8	1026.7	1023.7	1020.7	1021.6
17.5°	1013.8	1012.3	1011.0	1009.6	1008.1	1005.9	1002.8	999.7	996.6	993.6	994.7
20°	994.4	993.0	991.7	990.2	988.8	986.5	983.2	979.9	976.7	973.4	974.1
22.5°	975.1	973.1	971.1	969.2	967.3	964.7	961.6	958.5	955.5	952.4	952.5
25°	941.8	940.0	938.1	936.3	934.4	931.4	927.5	923.5	919.6	915.6	916.1
27.5°	904.0	902.4	900.6	899.0	897.3	894.8	891.8	888.6	885.5	882.3	881.7
30°	878.8	876.9	875.0	873.2	871.3	868.6	865.1	861.7	858.1	854.6	853.9
32.5°	851.9	850.4	848.9	847.4	845.9	843.3	839.6	835.9	832.3	828.5	827.3
35°	812.5	810.2	807.9	805.6	803.2	800.2	796.5	792.7	788.9	785.2	783.9
37.5°	768.2	766.1	764.1	762.0	760.0	757.1	753.4	749.6	745.8	742.1	740.4
40°	737.9	736.1	734.2	732.3	730.5	727.6	723.9	720.2	716.4	712.7	710.6
42.5°	708.5	706.6	704.7	702.9	701.0	698.2	694.5	690.8	687.0	683.3	681.0
45°	661.2	659.6	657.9	656.3	654.7	652.0	648.6	645.1	641.6	638.1	635.5
47.5°	614.1	612.6	611.0	609.5	607.9	605.3	601.7	598.0	594.4	590.7	588.0
50°	581.3	580.1	579.0	577.8	576.6	574.4	571.2	567.8	564.6	561.3	558.1
52.5°	549.4	547.8	546.3	544.7	543.2	540.9	537.8	534.7	531.6	528.5	525.9
55°	500.3	499.0	497.6	496.1	494.7	492.7	489.9	487.0	484.3	481.4	478.6
57.5°	451.1	450.0	448.9	447.8	446.7	444.6	441.5	438.4	435.3	432.2	429.5
60°	418.4	417.4	416.5	415.6	414.6	412.6	409.2	406.0	402.7	399.4	396.9
62.5°	386.4	384.9	383.4	381.9	380.4	378.4	375.9	373.4	370.8	368.4	366.0
65°	337.5	336.0	334.6	333.2	331.8	329.9	327.6	325.3	323.0	320.6	318.5
67.5°	287.6	286.5	285.3	284.2	283.1	281.5	279.4	277.3	275.2	273.1	271.5
70°	256.5	255.6	254.6	253.7	252.8	251.2	249.1	247.0	244.9	242.8	241.2
72.5°	224.5	223.6	222.7	221.7	220.8	219.7	218.3	217.0	215.6	214.2	212.6
75°	176.6	176.1	175.6	175.2	174.8	173.9	172.8	171.6	170.4	169.2	167.9
77.5°	133.7	132.9	132.1	131.3	130.6	129.9	129.4	129.0	128.5	128.0	127.3
80°	105.1	104.9	104.6	104.4	104.2	103.9	103.4	102.9	102.4	102.0	101.2
82.5°	78.2	78.2	78.1	78.0	78.0	77.9	77.6	77.3	77.0	76.8	75.8
85°	43.1	42.9	42.6	42.4	42.1	41.9	41.7	41.4	41.2	41.0	40.3
87.5°	15.2	15.1	14.9	14.7	14.5	14.3	14.1	13.9	13.6	13.4	13.0
90°	0.4	1.4	2.5	3.4	4.4	5.3	6.1	6.8	7.5	8.2	8.7
92.5°	8.3	8.2	8.2	8.1	8.0	8.2	8.5	8.9	9.2	9.6	9.8
95°	26.9	23.8	20.8	17.7	14.7	13.5	14.2	14.8	15.4	16.2	16.6
97.5°	53.3	44.8	36.3	27.7	19.2	15.6	17.1	18.6	20.1	21.5	21.9
100°	73.2	60.6	48.0	35.4	22.8	17.3	18.9	20.4	22.0	23.5	24.3
102.5°	95.0	92.4	89.7	87.0	84.4	76.4	63.5	50.4	37.3	24.2	25.2
105°	125.6	128.4	131.2	134.0	136.7	125.6	100.4	75.4	50.3	25.2	26.2
107.5°	160.7	162.9	165.1	167.3	169.5	155.6	125.6	95.5	65.4	35.3	34.3
110°	183.2	185.1	187.0	188.9	190.8	178.6	152.0	125.5	98.9	72.3	63.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	204.3	206.0	207.7	209.5	211.1	208.7	202.2	195.6	189.0	182.5	148.9
115°	237.7	239.2	240.8	242.4	244.0	245.9	248.2	250.5	252.8	255.1	212.5
117.5°	267.6	269.3	271.1	272.8	274.6	276.2	277.8	279.4	281.0	282.5	272.3
120°	289.4	290.7	292.2	293.5	294.9	296.4	298.1	299.8	301.3	303.0	304.1
122.5°	307.9	309.3	310.9	312.3	313.7	315.4	317.1	318.9	320.8	322.6	323.2
125°	336.1	337.3	338.5	339.7	340.9	342.4	344.1	345.9	347.6	349.4	350.0
127.5°	361.6	363.0	364.3	365.6	366.9	368.3	369.6	370.9	372.2	373.5	374.4
130°	377.9	379.3	380.8	382.3	383.7	385.0	386.0	387.0	388.0	389.0	390.1
132.5°	394.4	395.6	396.9	398.2	399.4	400.5	401.6	402.6	403.5	404.6	405.4
135°	415.9	417.4	418.8	420.3	421.8	422.9	423.7	424.6	425.4	426.2	427.1
137.5°	437.7	438.6	439.7	440.7	441.7	442.8	443.7	444.7	445.5	446.5	447.4
140°	451.9	452.6	453.4	454.1	454.8	455.7	456.7	457.7	458.7	459.7	460.6
142.5°	463.7	464.5	465.1	465.7	466.4	467.3	468.5	469.6	470.8	472.0	472.7
145°	482.4	482.4	482.3	482.2	482.1	482.8	484.4	485.9	487.5	489.1	489.7
147.5°	498.8	498.4	498.0	497.7	497.3	498.0	499.5	501.1	502.6	504.1	504.6
150°	509.3	508.7	508.0	507.4	506.8	507.2	508.7	510.1	511.6	513.0	513.6
152.5°	518.2	517.5	516.8	516.1	515.4	515.7	517.1	518.6	519.9	521.3	521.9
155°	531.2	530.4	529.6	528.8	527.9	528.1	529.2	530.3	531.4	532.5	533.1
157.5°	541.4	540.7	540.0	539.3	538.6	538.7	539.4	540.2	541.0	541.8	542.3
160°	547.4	546.8	546.3	545.7	545.2	545.2	545.7	546.3	546.8	547.4	548.0
162.5°	552.6	552.1	551.5	551.0	550.5	550.4	550.9	551.4	551.8	552.3	552.9
165°	559.8	559.2	558.6	558.1	557.5	557.5	557.7	557.9	558.3	558.5	559.2
167.5°	565.1	564.5	564.0	563.4	562.8	562.7	562.9	563.2	563.5	563.7	564.4
170°	568.0	567.5	567.0	566.4	565.9	565.6	565.9	566.0	566.2	566.4	567.0
172.5°	570.1	569.5	568.9	568.4	567.8	567.6	567.8	568.0	568.2	568.4	569.0
175°	572.6	572.0	571.3	570.7	570.0	569.8	570.0	570.1	570.3	570.5	571.2
177.5°	573.0	572.5	572.0	571.5	570.9	570.7	570.8	570.8	570.9	571.0	571.6
180°	571.3	571.3	571.3	571.3	571.3	571.3	571.3	571.3	571.3	571.3	571.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2
2.5°	1088.5	1090.4	1092.3	1093.1	1092.7	1092.3	1091.9	1091.5
5°	1081.2	1083.1	1085.0	1085.6	1085.2	1084.7	1084.3	1083.8
7.5°	1069.0	1070.9	1072.8	1073.4	1072.9	1072.4	1071.9	1071.3
10°	1058.0	1059.9	1061.8	1062.4	1061.7	1061.0	1060.3	1059.6
12.5°	1045.2	1046.5	1047.8	1048.2	1047.7	1047.2	1046.6	1046.2
15°	1022.5	1023.5	1024.5	1024.3	1023.2	1022.0	1020.8	1019.6
17.5°	995.7	996.8	997.9	997.8	996.7	995.6	994.5	993.4
20°	974.8	975.5	976.2	976.0	975.2	974.2	973.3	972.3
22.5°	952.7	952.8	952.9	952.8	952.1	951.6	951.0	950.5
25°	916.6	917.0	917.4	917.4	917.0	916.6	916.1	915.6
27.5°	881.0	880.3	879.6	878.7	877.5	876.4	875.3	874.2
30°	853.2	852.5	851.8	851.0	850.1	849.1	848.2	847.2
32.5°	826.0	824.7	823.5	822.4	821.5	820.5	819.6	818.6
35°	782.4	781.0	779.7	778.3	777.2	776.0	774.8	773.6
37.5°	738.7	737.0	735.2	733.8	732.7	731.6	730.5	729.3
40°	708.5	706.4	704.3	702.7	701.9	700.9	700.0	699.0
42.5°	678.7	676.4	674.1	672.3	671.0	669.7	668.4	667.1
45°	633.0	630.3	627.8	626.1	625.1	624.2	623.2	622.3
47.5°	585.3	582.7	580.0	577.9	576.6	575.2	573.9	572.5
50°	554.8	551.5	548.3	546.1	544.9	543.7	542.6	541.4
52.5°	523.1	520.4	517.7	515.6	514.0	512.5	511.0	509.4
55°	475.9	473.0	470.2	468.3	467.1	465.9	464.8	463.6
57.5°	426.7	424.0	421.2	419.4	418.5	417.6	416.8	415.8
60°	394.3	391.7	389.2	387.5	386.8	386.1	385.4	384.8
62.5°	363.5	361.2	358.8	357.2	356.2	355.4	354.5	353.6
65°	316.4	314.3	312.2	310.5	309.4	308.2	307.0	305.9
67.5°	269.8	268.2	266.6	265.3	264.4	263.4	262.4	261.5
70°	239.6	237.9	236.3	235.0	234.1	233.1	232.2	231.2
72.5°	211.0	209.3	207.7	206.5	205.7	205.0	204.2	203.5
75°	166.4	165.0	163.7	163.2	163.7	164.1	164.5	165.0
77.5°	126.7	126.0	125.2	124.5	123.9	123.3	122.6	121.9
80°	100.5	99.9	99.2	98.5	98.1	97.7	97.2	96.7
82.5°	74.9	74.1	73.2	72.7	72.6	72.5	72.4	72.3
85°	39.6	38.9	38.2	37.7	37.5	37.2	37.0	36.8
87.5°	12.5	12.0	11.6	11.2	11.1	10.9	10.8	10.6
90°	9.2	9.7	10.1	10.5	10.6	10.8	11.0	11.2
92.5°	10.1	10.3	10.5	10.7	10.9	10.9	11.1	11.2
95°	17.0	17.5	18.0	18.1	18.1	18.0	17.9	17.7
97.5°	22.3	22.7	23.1	23.3	23.4	23.5	23.6	23.8
100°	25.0	25.7	26.5	26.9	27.2	27.3	27.5	27.7
102.5°	26.1	27.1	28.0	28.7	28.9	29.2	29.4	29.7
105°	27.3	28.3	29.2	29.9	30.3	30.7	31.1	31.4
107.5°	33.3	32.2	31.2	30.9	31.2	31.6	31.9	32.3
110°	53.9	44.8	35.6	31.2	31.5	31.9	32.3	32.6



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CATALOG NUMBER: SA2XXDIP-C865D530U927-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	115.4	81.9	48.4	31.8	32.1	32.4	32.7	33.0
115°	170.0	127.5	84.9	60.4	53.7	47.1	40.5	33.9
117.5°	262.0	251.7	241.4	225.4	203.6	181.9	160.2	138.4
120°	305.2	306.3	307.4	301.8	289.4	277.0	264.6	252.2
122.5°	323.8	324.6	325.2	324.3	321.9	319.5	317.1	314.7
125°	350.6	351.3	351.9	352.4	352.7	352.9	353.2	353.5
127.5°	375.3	376.3	377.2	377.7	377.8	377.9	377.9	378.0
130°	391.0	392.1	393.1	393.6	393.4	393.3	393.2	393.2
132.5°	406.3	407.2	408.1	408.4	408.3	408.2	408.1	408.1
135°	428.1	429.0	429.9	430.3	430.1	429.9	429.8	429.5
137.5°	448.3	449.2	450.1	450.4	450.0	449.7	449.5	449.2
140°	461.4	462.2	463.0	463.2	462.7	462.3	461.8	461.4
142.5°	473.5	474.2	475.0	475.2	474.7	474.2	473.7	473.2
145°	490.4	491.0	491.6	491.7	491.3	490.8	490.4	489.9
147.5°	505.1	505.6	506.0	506.0	505.7	505.3	504.9	504.5
150°	514.1	514.7	515.2	515.3	514.8	514.4	513.9	513.5
152.5°	522.4	523.0	523.6	523.5	522.9	522.3	521.7	521.1
155°	533.6	534.2	534.7	534.6	533.9	533.1	532.4	531.6
157.5°	543.0	543.6	544.2	544.2	543.4	542.7	542.0	541.3
160°	548.4	549.0	549.5	549.5	548.9	548.3	547.6	546.9
162.5°	553.6	554.2	554.8	554.8	554.0	553.2	552.4	551.6
165°	559.8	560.5	561.1	561.1	560.5	559.8	559.2	558.5
167.5°	565.0	565.7	566.3	566.3	565.4	564.6	563.7	562.9
170°	567.7	568.3	568.9	568.9	568.0	567.2	566.4	565.5
172.5°	569.7	570.3	570.9	570.8	570.1	569.2	568.4	567.5
175°	571.8	572.4	573.1	573.0	572.0	571.1	570.2	569.3
177.5°	572.0	572.6	573.1	573.0	572.4	571.6	571.0	570.4
180°	571.3	571.3	571.3	571.3	571.3	571.3	571.3	571.3

(END OF REPORT)