

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: P331378

Luminaire Tested: **SA2XXDIP-C865D330U835-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331378
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-C865D330U835-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 330 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

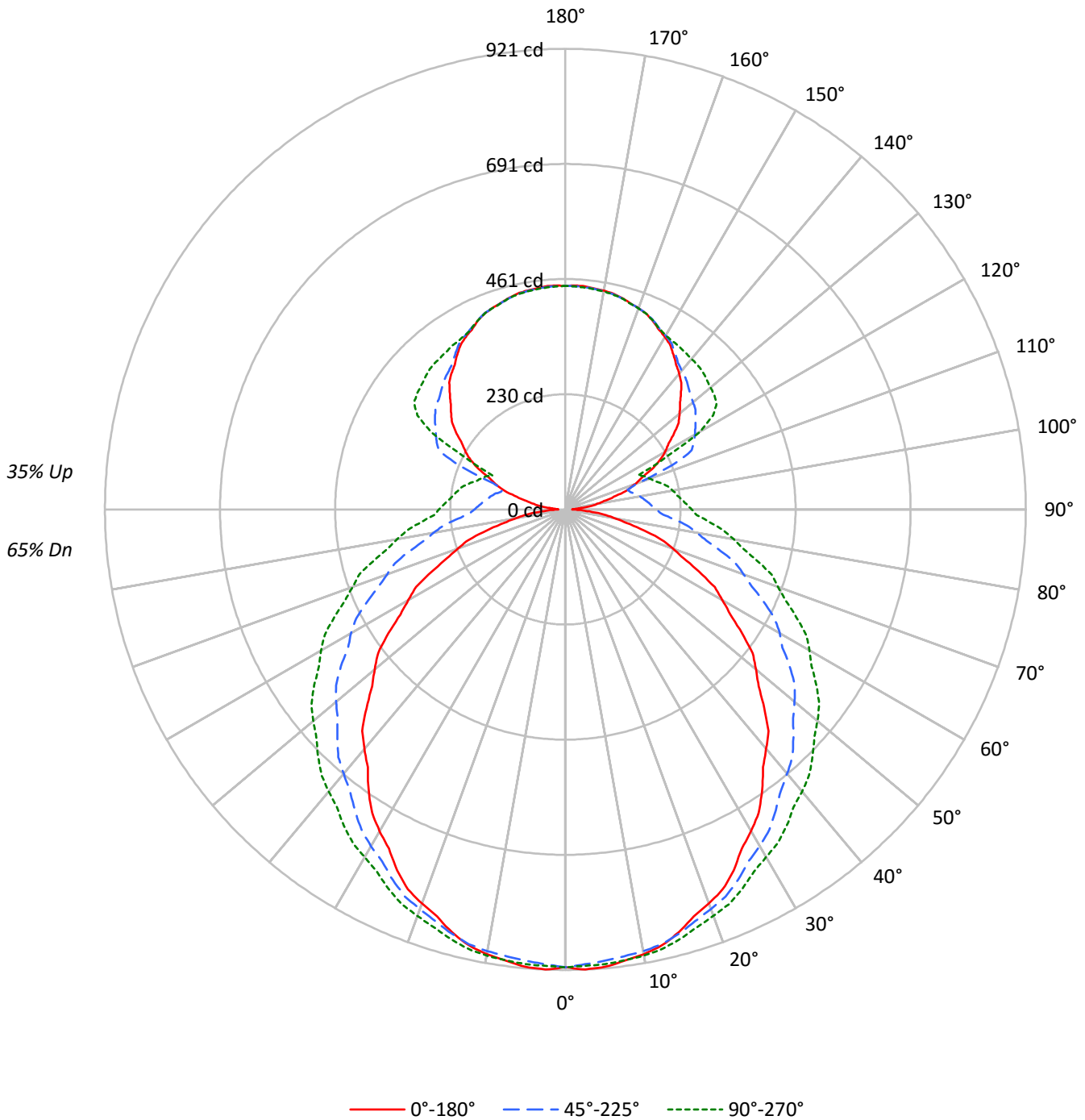
Lumens per Lamp: N/A
Luminaire Lumens: 4803.7 lumens
Efficiency: N/A
Efficacy: 110.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 43.5
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	111	111	111	111	104	104	104	104	91	91	91	80	80	80	70	70	70	65				
1	99	94	89	85	93	88	84	80	77	74	71	68	65	63	58	57	55	50				
2	89	81	74	68	84	76	70	64	67	62	57	58	54	51	50	47	45	41				
3	81	70	62	56	76	66	59	53	58	52	47	51	46	42	44	40	37	34				
4	74	62	53	47	69	58	50	44	51	45	40	45	40	36	39	35	32	28				
5	68	55	46	40	63	52	44	38	46	39	34	40	35	31	35	31	27	24				
6	62	49	41	34	58	47	39	33	41	35	30	36	31	27	32	27	24	21				
7	58	44	36	30	54	42	34	29	37	31	26	33	27	23	29	24	21	18				
8	54	40	32	26	50	38	31	25	34	28	23	30	25	21	26	22	19	16				
9	50	37	29	23	47	35	28	23	31	25	21	28	22	19	24	20	17	15				
10	47	34	26	21	44	32	25	20	29	23	19	26	20	17	23	18	15	13				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14783	14783	14783
5°	14855	14230	14176
10°	14762	13809	13655
15°	14558	13364	13106
20°	14300	12888	12577
25°	14048	12428	12096
30°	13689	11955	11614
35°	13327	11498	11275
40°	12947	11110	10935
45°	12584	10762	10645
50°	12196	10448	10360
55°	11790	10109	10067
60°	11292	9759	9760
65°	10774	9347	9393
70°	10189	8905	8999
75°	9446	8470	8637
80°	8274	8029	8266
85°	7152	7646	7981



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.8	1.8
10°-20°	248.8	5.2
20°-30°	377.0	7.8
30°-40°	459.2	9.6
40°-50°	494.0	10.3
50°-60°	479.7	10.0
60°-70°	418.9	8.7
70°-80°	322.5	6.7
80°-90°	217.5	4.5
90°-100°	164.0	3.4
100°-110°	163.5	3.4
110°-120°	218.0	4.5
120°-130°	281.3	5.9
130°-140°	273.3	5.7
140°-150°	241.3	5.0
150°-160°	191.7	4.0
160°-170°	123.5	2.6
170°-180°	42.5	0.9
0°-30°	712.5	14.8
0°-40°	1171.7	24.4
0°-60°	2145.5	44.7
0°-90°	3104.4	64.6
90°-120°	545.6	11.4
90°-150°	1341.6	27.9
90°-180°	1699.0	35.4
0°-180°	4803.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	916	916	916	916	916	
5°	918	914	906	914	913	87
15°	876	878	878	890	889	247
25°	796	806	817	833	837	366
35°	686	709	734	762	772	429
45°	563	599	645	684	699	434
55°	431	480	548	594	613	385
65°	295	360	438	490	510	293
75°	163	238	322	377	397	173
85°	48	130	215	269	289	51
90°	14	94	182	234	253	10
95°	32	85	165	215	233	34
105°	105	149	134	182	200	113
115°	191	214	279	175	160	188
125°	266	272	318	355	369	237
135°	327	332	348	378	389	253
145°	377	377	382	392	398	236
155°	416	413	416	418	416	191
165°	438	436	437	439	437	124
175°	448	446	446	448	445	43
180°	447	447	447	447	447	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6
2.5°	920.9	920.2	919.5	918.8	918.1	916.9	915.2	913.6	911.9	910.3	911.5
5°	918.2	917.4	916.5	915.6	914.7	913.4	911.6	909.8	908.1	906.3	908.1
7.5°	910.0	909.4	908.8	908.3	907.7	906.7	905.3	904.0	902.6	901.3	903.4
10°	903.7	903.1	902.5	901.9	901.3	900.6	899.7	898.8	897.9	897.0	899.4
12.5°	893.0	893.2	893.3	893.4	893.5	893.2	892.6	891.9	891.3	890.6	893.0
15°	875.8	876.4	877.0	877.6	878.1	878.4	878.4	878.4	878.4	878.4	881.1
17.5°	853.5	854.7	856.0	857.2	858.4	859.5	860.5	861.4	862.4	863.3	866.1
20°	838.6	840.1	841.6	843.1	844.5	845.9	847.0	848.2	849.4	850.6	853.8
22.5°	822.7	824.4	826.1	827.8	829.5	831.2	832.9	834.5	836.2	837.8	841.1
25°	796.2	798.2	800.3	802.4	804.4	806.8	809.4	812.1	814.7	817.4	820.9
27.5°	764.3	767.7	771.0	774.4	777.8	781.0	784.1	787.3	790.4	793.5	798.0
30°	743.1	746.9	750.8	754.6	758.4	762.3	766.1	769.9	773.8	777.6	782.3
32.5°	719.7	724.0	728.3	732.7	737.0	741.4	745.9	750.5	755.0	759.5	765.0
35°	686.0	691.0	696.1	701.1	706.1	711.4	717.0	722.6	728.2	733.8	740.3
37.5°	649.4	655.2	661.0	666.7	672.5	679.0	686.3	693.6	700.8	708.1	715.3
40°	625.0	631.5	638.0	644.5	650.9	658.2	666.1	674.1	682.1	690.0	697.7
42.5°	601.6	608.1	614.6	621.1	627.6	635.4	644.5	653.7	662.8	672.0	680.3
45°	562.6	570.6	578.5	586.5	594.5	603.6	613.9	624.3	634.6	644.9	654.0
47.5°	524.1	532.8	541.5	550.2	558.8	569.2	581.3	593.4	605.5	617.6	627.1
50°	497.6	506.7	515.9	525.0	534.2	545.4	558.6	571.9	585.2	598.5	608.5
52.5°	472.1	481.7	491.4	501.0	510.6	522.4	536.4	550.3	564.3	578.3	588.5
55°	431.3	441.9	452.5	463.1	473.7	486.7	502.0	517.4	532.7	548.0	558.6
57.5°	390.9	402.9	414.9	426.8	438.8	452.6	468.2	483.9	499.5	515.1	526.6
60°	362.3	374.9	387.6	400.3	413.0	427.7	444.5	461.3	478.1	495.0	506.2
62.5°	336.8	349.9	363.1	376.2	389.4	404.4	421.2	438.0	454.8	471.6	483.5
65°	294.6	309.0	323.5	337.9	352.4	368.3	385.7	403.1	420.5	437.9	450.0
67.5°	255.8	270.9	286.0	301.1	316.2	332.7	350.5	368.3	386.1	403.9	416.1
70°	228.2	243.6	258.9	274.2	289.6	306.4	324.7	342.9	361.2	379.5	392.2
72.5°	202.8	218.6	234.4	250.2	266.0	283.1	301.7	320.2	338.7	357.2	369.7
75°	163.2	179.7	196.2	212.8	229.3	247.0	265.8	284.7	303.6	322.4	335.1
77.5°	125.0	142.3	159.6	176.8	194.1	212.3	231.5	250.7	269.8	289.0	301.6
80°	99.5	117.5	135.5	153.5	171.5	190.0	209.2	228.4	247.5	266.7	279.1
82.5°	78.3	96.0	113.8	131.5	149.3	167.9	187.3	206.7	226.1	245.5	257.9
85°	47.8	66.1	84.3	102.6	120.9	139.5	158.3	177.2	196.1	215.0	227.4
87.5°	26.1	43.8	61.5	79.3	97.0	115.4	134.4	153.3	172.3	191.3	203.4
90°	13.6	31.5	49.4	67.3	85.2	103.8	123.3	142.7	162.2	181.6	193.8
92.5°	18.7	34.6	50.4	66.3	82.1	99.3	117.7	136.2	154.7	173.1	184.9
95°	31.6	43.1	54.6	66.1	77.6	92.4	110.6	128.8	147.0	165.2	176.8
97.5°	51.0	56.6	62.3	67.9	73.6	85.5	103.6	121.8	139.9	158.1	169.3
100°	66.5	67.6	68.7	69.7	70.8	80.2	97.9	115.7	133.4	151.1	162.6
102.5°	82.5	90.4	98.3	106.2	114.1	120.9	126.7	132.6	138.4	144.2	155.6
105°	104.9	115.6	126.3	137.0	147.8	151.0	146.7	142.4	138.1	133.8	145.0
107.5°	132.0	140.6	149.2	157.8	166.3	166.2	157.4	148.5	139.7	130.8	140.0
110°	148.5	155.9	163.4	170.8	178.2	178.7	172.4	166.1	159.8	153.4	155.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	165.1	171.4	177.7	184.0	190.3	197.7	206.3	214.9	223.5	232.2	215.4
115°	191.2	195.7	200.2	204.6	209.1	218.8	233.9	249.0	264.0	279.1	254.7
117.5°	213.2	216.7	220.2	223.7	227.2	235.7	249.2	262.7	276.2	289.7	290.4
120°	230.3	232.6	234.8	237.1	239.3	247.0	260.1	273.2	286.3	299.4	308.5
122.5°	244.8	246.4	248.0	249.6	251.2	258.3	270.8	283.3	295.8	308.3	316.8
125°	265.5	266.5	267.4	268.3	269.3	275.1	285.9	296.7	307.5	318.3	326.8
127.5°	285.5	286.2	287.0	287.7	288.5	293.1	301.8	310.4	319.0	327.7	335.7
130°	298.2	299.0	299.9	300.7	301.6	305.5	312.5	319.5	326.5	333.4	341.3
132.5°	311.1	311.8	312.5	313.2	313.8	317.0	322.5	328.1	333.7	339.2	346.8
135°	326.6	327.7	328.9	330.0	331.2	333.6	337.2	340.8	344.4	347.9	354.9
137.5°	343.6	344.3	345.1	345.8	346.6	348.0	350.0	352.0	354.1	356.1	362.2
140°	354.7	355.0	355.3	355.6	355.8	356.7	358.1	359.4	360.8	362.2	367.6
142.5°	364.0	364.3	364.5	364.7	364.9	365.6	366.6	367.6	368.6	369.6	374.0
145°	377.3	377.3	377.2	377.1	377.0	377.6	378.8	380.1	381.3	382.5	384.8
147.5°	390.1	389.8	389.5	389.2	389.0	389.4	390.6	391.9	393.1	394.3	394.9
150°	398.3	397.8	397.3	396.8	396.3	396.7	397.8	399.0	400.1	401.3	401.7
152.5°	405.3	404.8	404.2	403.6	403.1	403.3	404.4	405.5	406.6	407.7	408.1
155°	415.5	414.8	414.2	413.5	412.9	413.0	413.9	414.7	415.6	416.4	416.9
157.5°	423.4	422.9	422.3	421.8	421.2	421.3	421.9	422.5	423.1	423.7	424.2
160°	428.1	427.7	427.2	426.8	426.4	426.4	426.8	427.2	427.7	428.1	428.5
162.5°	432.2	431.8	431.4	430.9	430.5	430.5	430.8	431.2	431.6	432.0	432.5
165°	437.8	437.4	436.9	436.5	436.1	436.0	436.2	436.4	436.6	436.8	437.3
167.5°	441.9	441.5	441.1	440.6	440.2	440.1	440.3	440.5	440.7	440.9	441.4
170°	444.3	443.8	443.4	443.0	442.5	442.4	442.5	442.7	442.8	443.0	443.5
172.5°	445.8	445.4	444.9	444.5	444.1	443.9	444.1	444.2	444.4	444.5	445.0
175°	447.8	447.3	446.8	446.3	445.8	445.6	445.8	445.9	446.1	446.2	446.7
177.5°	448.1	447.7	447.3	446.9	446.5	446.4	446.4	446.5	446.5	446.6	447.0
180°	446.8	446.8	446.8	446.8	446.8	446.8	446.8	446.8	446.8	446.8	446.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6
2.5°	912.6	913.8	915.0	915.4	914.9	914.4	913.9	913.5
5°	909.8	911.6	913.4	914.1	913.8	913.5	913.2	912.9
7.5°	905.5	907.6	909.8	910.7	910.4	910.1	909.8	909.5
10°	901.7	904.1	906.5	907.5	907.2	906.9	906.6	906.3
12.5°	895.4	897.7	900.1	901.1	900.8	900.5	900.2	899.9
15°	883.7	886.4	889.1	890.2	889.9	889.6	889.3	889.1
17.5°	868.9	871.6	874.4	875.8	875.8	875.8	875.8	875.8
20°	857.1	860.3	863.5	865.2	865.2	865.2	865.2	865.2
22.5°	844.3	847.6	850.8	852.7	853.1	853.6	854.1	854.6
25°	824.5	828.0	831.6	833.8	834.6	835.5	836.4	837.3
27.5°	802.5	807.0	811.4	814.0	814.7	815.3	816.0	816.6
30°	787.0	791.7	796.5	799.3	800.1	801.0	801.9	802.8
32.5°	770.4	775.8	781.2	784.8	786.3	787.9	789.5	791.1
35°	746.8	753.3	759.8	764.0	766.1	768.2	770.2	772.3
37.5°	722.4	729.6	736.8	741.5	743.7	745.9	748.1	750.3
40°	705.3	713.0	720.7	725.8	728.5	731.1	733.8	736.5
42.5°	688.7	697.1	705.5	711.0	713.6	716.3	718.9	721.6
45°	663.2	672.3	681.5	687.5	690.5	693.4	696.4	699.3
47.5°	636.7	646.2	655.8	662.2	665.4	668.7	671.9	675.2
50°	618.5	628.5	638.6	645.2	648.4	651.7	654.9	658.2
52.5°	598.8	609.1	619.3	626.2	629.7	633.2	636.6	640.1
55°	569.3	579.9	590.5	597.7	601.5	605.4	609.2	613.0
57.5°	538.0	549.4	560.9	568.6	572.4	576.3	580.2	584.1
60°	517.4	528.6	539.8	547.4	551.6	555.7	559.8	564.0
62.5°	495.4	507.3	519.2	527.2	531.0	534.9	538.8	542.7
65°	462.1	474.2	486.3	494.2	498.0	501.9	505.7	509.5
67.5°	428.3	440.5	452.8	460.9	464.9	468.9	472.9	476.9
70°	404.9	417.5	430.2	438.3	441.9	445.4	449.0	452.5
72.5°	382.1	394.5	407.0	415.3	419.6	423.8	428.1	432.3
75°	347.8	360.5	373.2	381.4	385.3	389.1	392.9	396.8
77.5°	314.3	326.9	339.5	347.9	352.0	356.1	360.3	364.4
80°	291.5	303.9	316.3	324.5	328.6	332.8	336.9	341.0
82.5°	270.3	282.6	295.0	303.2	307.1	310.9	314.8	318.7
85°	239.7	252.1	264.5	272.8	276.9	281.0	285.1	289.3
87.5°	215.5	227.6	239.7	247.7	251.5	255.3	259.1	262.9
90°	205.9	218.1	230.2	238.2	241.8	245.5	249.2	252.9
92.5°	196.6	208.3	220.1	227.8	231.4	235.0	238.6	242.3
95°	188.3	199.9	211.5	219.0	222.4	225.9	229.4	232.8
97.5°	180.5	191.7	202.9	210.2	213.8	217.4	220.9	224.5
100°	174.1	185.6	197.1	204.5	207.9	211.3	214.7	218.1
102.5°	167.1	178.5	189.9	197.3	200.8	204.2	207.7	211.1
105°	156.1	167.2	178.3	185.6	189.1	192.7	196.2	199.7
107.5°	149.1	158.2	167.3	173.6	177.1	180.6	184.2	187.7
110°	158.0	160.2	162.5	165.3	168.9	172.4	175.9	179.5



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CATALOG NUMBER: SA2XXDIP-C865D330U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	198.6	181.8	165.1	158.4	161.9	165.3	168.8	172.3
115°	230.3	205.8	181.4	168.3	166.3	164.4	162.5	160.5
117.5°	291.1	291.7	292.4	285.8	271.8	257.8	243.8	229.8
120°	317.6	326.7	335.8	337.2	330.7	324.3	317.8	311.3
122.5°	325.3	333.9	342.4	347.1	348.0	348.9	349.8	350.7
125°	335.3	343.7	352.2	357.9	360.7	363.6	366.5	369.3
127.5°	343.7	351.8	359.8	365.2	367.8	370.5	373.1	375.7
130°	349.2	357.0	364.9	370.0	372.3	374.6	376.9	379.1
132.5°	354.3	361.8	369.3	374.2	376.5	378.8	381.1	383.4
135°	361.8	368.7	375.6	380.2	382.4	384.6	386.8	389.0
137.5°	368.4	374.5	380.6	384.6	386.3	388.1	389.8	391.6
140°	372.9	378.3	383.7	387.0	388.5	389.9	391.3	392.7
142.5°	378.4	382.7	387.1	389.9	391.0	392.2	393.4	394.6
145°	387.0	389.3	391.6	393.3	394.4	395.5	396.6	397.7
147.5°	395.5	396.1	396.7	397.2	397.6	398.0	398.4	398.8
150°	402.1	402.5	403.0	403.0	402.7	402.3	401.9	401.6
152.5°	408.6	409.0	409.4	409.4	408.9	408.5	408.0	407.5
155°	417.3	417.7	418.2	418.1	417.5	417.0	416.4	415.8
157.5°	424.7	425.2	425.6	425.6	425.0	424.5	423.9	423.4
160°	429.0	429.4	429.8	429.8	429.3	428.8	428.3	427.8
162.5°	432.9	433.4	433.9	433.9	433.2	432.6	432.0	431.4
165°	437.8	438.3	438.8	438.8	438.3	437.8	437.3	436.8
167.5°	441.9	442.4	442.9	442.8	442.2	441.5	440.9	440.2
170°	444.0	444.5	445.0	444.9	444.3	443.6	443.0	442.3
172.5°	445.5	446.0	446.5	446.5	445.8	445.2	444.5	443.9
175°	447.2	447.7	448.2	448.1	447.4	446.7	445.9	445.2
177.5°	447.4	447.8	448.2	448.1	447.6	447.1	446.6	446.1
180°	446.8	446.8	446.8	446.8	446.8	446.8	446.8	446.8

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