

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: P331380

Luminaire Tested: **SA2XXDIP-C865D330U835-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331380  
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: SA2XXDIP-C865D330U835-4F0-1E-UDD-D4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 330 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

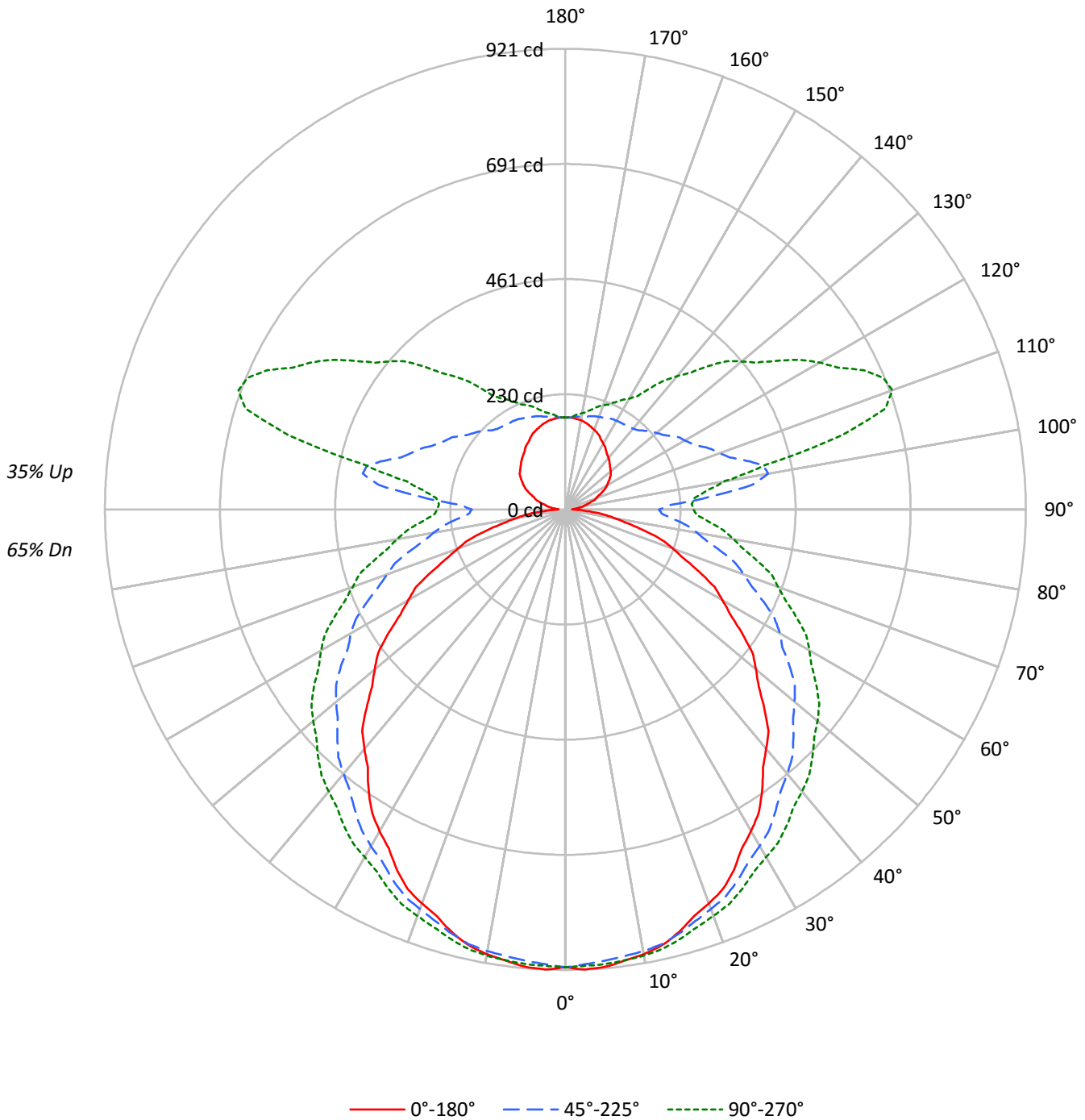
Lumens per Lamp: N/A  
Luminaire Lumens: 4773.2 lumens  
Efficiency: N/A  
Efficacy: 109.7 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Direct

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



TEST NUMBER: P331380  
CATALOG NUMBER: SA2XXDIP-C865D330U835-4F0-1E-UDD-D4

### Luminous Intensity Polar Plot





TEST NUMBER: P331380

CATALOG NUMBER: SA2XXDIP-C865D330U835-4F0-1E-UDD-D4

**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	92	92	92	80	80	80	70	70	70	65				
1	99	94	89	85	93	88	84	80	78	74	71	68	65	63	59	57	55	51				
2	90	81	74	68	84	76	70	64	67	62	58	58	55	51	51	48	45	41				
3	81	71	62	56	76	66	59	53	58	52	48	51	46	42	44	41	37	34				
4	74	62	53	47	69	58	51	44	52	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	45	36	30	54	42	34	29	37	31	26	33	28	24	29	24	21	19				
8	54	40	32	26	50	38	31	25	34	28	23	30	25	21	26	22	19	16				
9	50	37	29	24	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	21	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



TEST NUMBER: P331380

CATALOG NUMBER: SA2XXDIP-C865D330U835-4F0-1E-UDD-D4

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	86.8	1.8
10°-20°	248.8	5.2
20°-30°	377.0	7.9
30°-40°	459.2	9.6
40°-50°	494.0	10.3
50°-60°	479.7	10.1
60°-70°	418.9	8.8
70°-80°	322.5	6.8
80°-90°	218.1	4.6
90°-100°	222.6	4.7
100°-110°	358.2	7.5
110°-120°	336.8	7.1
120°-130°	258.2	5.4
130°-140°	191.9	4.0
140°-150°	135.2	2.8
150°-160°	93.0	1.9
160°-170°	54.7	1.1
170°-180°	17.8	0.4
0°-30°	712.5	14.9
0°-40°	1171.7	24.5
0°-60°	2145.5	44.9
0°-90°	3104.9	65.0
90°-120°	917.5	19.2
90°-150°	1502.8	31.5
90°-180°	1668.0	34.9
0°-180°	4773.2	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	95	187	238	256	10
95°	23	104	291	253	259	21
105°	50	112	376	627	573	53
115°	81	118	299	570	658	80
125°	109	130	256	446	518	97
135°	126	150	223	349	405	97
145°	142	163	207	265	296	89
155°	162	174	201	227	236	74
165°	176	181	193	204	207	50
175°	183	184	185	187	187	17
180°	184	184	184	184	184	



TEST NUMBER: P331380

CATALOG NUMBER: SA2XXDIP-C865D330U835-4F0-1E-UDD-D4

**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	43.9	61.7	79.4	97.2	115.6	134.8	154.2	173.5	192.4	204.4
90°	13.6	31.8	50.3	68.1	85.9	105.0	125.6	147.0	167.9	187.2	198.6
92.5°	16.5	34.3	52.8	70.3	88.6	109.0	135.1	164.5	192.7	211.5	216.0
95°	23.0	38.3	55.6	72.7	92.2	116.5	150.4	198.8	257.5	291.1	285.0
97.5°	29.4	43.7	59.7	76.9	95.7	120.0	157.4	217.2	302.3	377.6	400.1
100°	36.5	48.5	62.6	79.1	97.1	120.7	155.9	215.6	308.4	411.8	473.6
102.5°	41.9	52.7	65.8	81.4	98.8	121.7	155.0	209.4	296.1	405.8	496.5
105°	49.7	59.7	70.7	84.6	100.9	122.7	154.7	201.5	275.1	375.9	480.2
107.5°	59.7	67.6	76.9	88.6	103.1	123.9	154.7	196.8	259.6	345.0	437.9
110°	65.4	72.7	80.7	91.2	104.5	124.9	154.9	194.8	252.4	329.0	411.6



TEST NUMBER: P331380

CATALOG NUMBER: SA2XXDIP-C865D330U835-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	71.6	78.0	85.3	94.6	106.7	126.5	155.3	193.0	245.9	315.4	390.6
115°	81.3	86.3	91.6	99.1	109.4	127.2	155.7	190.5	238.1	298.7	363.4
117.5°	90.0	93.5	97.8	103.6	112.5	129.6	156.0	188.4	230.7	284.5	341.8
120°	96.2	98.8	102.1	106.5	114.7	131.1	156.7	187.5	226.5	276.1	329.3
122.5°	102.1	103.7	106.3	110.3	117.8	133.8	157.8	186.5	222.8	268.6	317.8
125°	108.7	109.7	111.8	116.1	123.1	137.7	159.9	185.2	216.6	255.7	300.1
127.5°	114.9	116.0	118.7	123.0	129.5	143.4	163.3	185.2	211.9	244.9	283.5
130°	118.5	119.7	122.9	127.6	134.3	147.2	165.7	185.3	209.2	238.0	272.6
132.5°	121.9	123.3	126.9	131.8	138.8	151.0	167.6	185.5	206.5	231.4	262.6
135°	125.7	127.1	131.4	136.7	144.8	156.1	170.4	185.7	202.8	222.7	249.0
137.5°	130.5	132.1	136.3	141.9	149.9	159.7	172.2	185.0	199.2	214.9	237.3
140°	134.2	135.3	139.2	144.6	152.1	161.4	172.6	184.1	196.7	210.4	230.3
142.5°	137.9	138.7	142.4	147.7	154.9	163.4	173.9	184.7	195.9	208.3	225.3
145°	142.0	143.5	147.0	152.3	159.4	167.1	176.7	186.6	196.4	207.0	220.1
147.5°	148.0	149.0	152.4	157.3	163.2	170.1	179.1	187.8	196.7	205.8	215.9
150°	151.9	153.0	155.8	160.4	165.7	172.1	180.2	188.3	196.4	204.9	213.4
152.5°	155.9	156.4	159.2	163.2	168.3	174.0	181.3	188.6	195.9	203.5	211.4
155°	161.5	161.8	163.9	167.8	171.7	177.0	183.0	189.0	195.0	201.0	207.8
157.5°	166.1	166.5	168.2	171.6	174.7	179.1	184.2	189.0	193.4	198.5	204.3
160°	169.2	169.6	171.0	173.8	176.7	180.6	184.8	189.0	192.6	196.8	201.7
162.5°	172.4	172.1	173.6	175.8	178.4	181.4	185.1	188.7	191.7	195.4	199.5
165°	176.0	175.6	176.3	178.4	180.2	182.3	185.5	188.0	190.1	192.6	195.7
167.5°	178.9	178.5	179.1	180.5	181.8	183.1	185.4	187.5	188.5	190.1	192.1
170°	180.9	180.2	180.6	181.6	182.3	183.4	185.1	186.9	187.6	188.7	190.1
172.5°	182.0	181.6	181.4	182.5	182.9	183.7	184.9	186.1	186.5	187.0	188.1
175°	183.4	183.0	182.7	183.4	183.4	183.7	184.4	185.1	184.8	185.1	185.5
177.5°	184.0	183.4	183.2	183.7	183.7	183.7	184.0	184.6	184.0	183.7	184.0
180°	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7



TEST NUMBER: P331380

CATALOG NUMBER: SA2XXDIP-C865D330U835-4F0-1E-UDD-D4

**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°	216.3	228.2	240.4	248.4	252.2	255.9	259.7	263.5
90°	210.1	221.1	233.6	241.7	245.2	248.7	252.3	255.8
92.5°	219.5	226.7	235.3	240.7	243.9	246.3	250.1	253.1
95°	267.6	257.2	253.6	253.2	252.1	252.9	255.3	259.2
97.5°	379.0	350.7	323.3	305.0	291.6	286.4	284.7	285.2
100°	477.1	444.2	406.7	371.0	344.9	333.0	326.0	322.9
102.5°	539.0	539.8	515.1	476.7	448.1	425.4	415.9	410.5
105°	564.1	614.3	629.2	624.3	605.7	587.0	575.1	573.4
107.5°	525.8	595.8	642.5	666.1	672.1	674.2	674.4	671.1
110°	495.6	568.2	622.9	658.2	676.7	686.6	693.0	695.9





TEST NUMBER: P331380

CATALOG NUMBER: SA2XXDIP-C865D330U835-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	467.2	537.4	595.1	634.7	659.1	673.5	682.8	687.9
115°	430.5	493.8	548.9	591.3	619.7	639.2	651.6	658.0
117.5°	400.0	456.5	507.2	547.2	575.8	596.0	608.7	614.4
120°	383.1	435.2	480.9	518.8	546.8	566.6	580.1	586.9
122.5°	368.6	416.8	460.3	494.7	519.7	538.8	550.7	556.4
125°	346.5	390.9	429.9	461.7	484.9	501.0	512.5	517.9
127.5°	324.7	365.0	401.6	431.0	451.5	466.7	476.9	481.7
130°	310.8	348.3	383.3	411.3	431.0	445.4	454.8	460.0
132.5°	297.2	332.2	364.6	391.2	410.5	424.9	433.8	438.7
135°	278.2	307.7	337.2	361.3	378.8	392.9	401.6	405.3
137.5°	261.4	286.3	310.3	331.2	347.1	359.1	366.7	370.8
140°	250.9	272.6	293.6	312.4	325.5	336.4	343.5	347.4
142.5°	243.0	261.2	278.9	294.6	306.9	316.7	323.0	325.0
145°	232.8	246.3	259.0	270.9	280.8	288.3	293.3	295.8
147.5°	225.5	234.9	243.7	251.6	259.3	264.9	268.0	269.3
150°	221.9	229.7	237.1	243.4	248.7	253.0	255.1	255.5
152.5°	218.8	226.0	232.3	237.8	242.0	245.6	247.2	247.3
155°	214.5	220.1	225.4	229.3	233.2	235.7	237.1	236.4
157.5°	209.5	214.2	218.6	221.7	224.4	226.5	227.1	227.1
160°	206.3	210.2	214.1	216.6	219.1	220.8	221.2	221.2
162.5°	203.2	206.6	209.9	211.8	214.3	215.5	215.8	215.5
165°	198.6	201.0	203.5	204.9	206.3	207.8	207.8	207.4
167.5°	194.1	196.0	197.7	199.0	199.6	200.4	200.3	199.9
170°	191.9	192.9	194.3	195.0	195.4	196.4	196.1	195.4
172.5°	189.3	190.1	191.2	191.6	192.0	192.5	192.1	191.7
175°	186.6	186.9	187.3	187.6	187.6	188.0	187.6	186.9
177.5°	184.6	184.6	184.9	184.9	184.9	184.9	184.6	184.0
180°	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7

(END OF REPORT)