

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: P331962-930

Luminaire Tested: **S123DIP-S775D365U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331962-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S775D365U930-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3600.8 lumens  
Efficiency: N/A  
Efficacy: 102.9 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: Semi-Direct

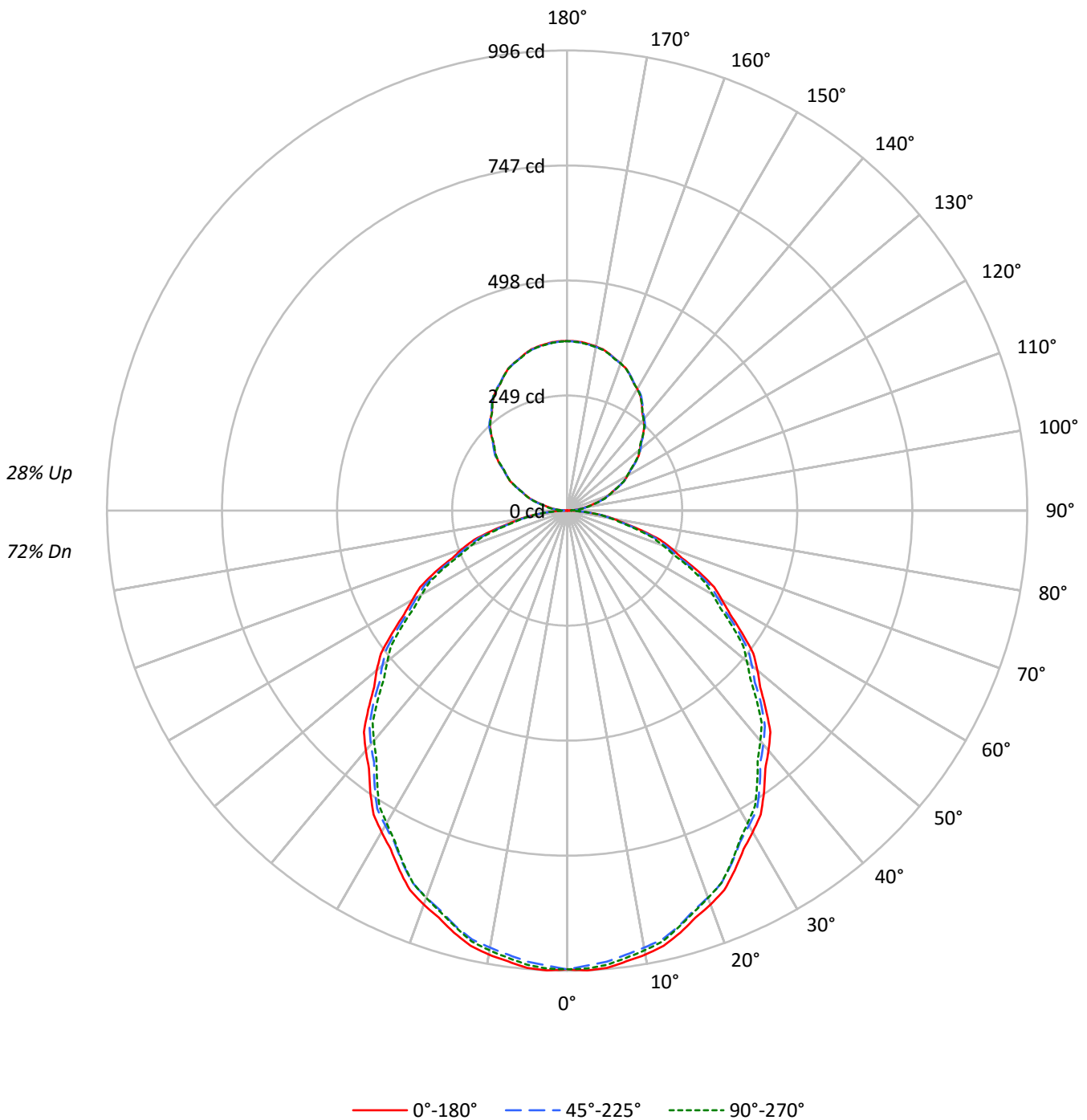
Input Watts (W): 35  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331962-930

CATALOG NUMBER: S123DIP-S775D365U930-4F0-1E-UDD-F1

### Luminous Intensity Polar Plot





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CATALOG NUMBER: S123DIP-S775D365U930-4F0-1E-UDD-F1

**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	112	112	112	112	106	106	106	106	95	95	95	85	85	85	76	76	76	72
1	103	98	94	90	97	93	89	86	84	81	78	75	73	71	67	66	64	60
2	93	86	79	74	88	81	76	71	73	69	65	66	62	59	59	56	54	50
3	85	75	68	61	80	72	65	59	65	59	55	58	54	50	52	49	46	43
4	78	67	58	52	74	64	56	50	58	51	47	52	47	43	47	43	40	37
5	72	60	51	45	68	57	49	43	52	45	40	47	41	37	42	38	34	32
6	66	54	45	39	62	51	43	38	47	40	35	42	37	33	38	34	30	28
7	61	48	40	34	58	46	39	33	42	36	31	39	33	29	35	30	27	25
8	57	44	36	31	54	42	35	30	39	32	28	35	30	26	32	28	24	22
9	53	40	33	27	50	39	32	27	36	29	25	33	27	23	30	25	22	20
10	50	37	30	25	47	36	29	24	33	27	23	30	25	21	28	23	20	18

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

	0°	45°	90°
0°	10687	10687	10687
5°	10737	10589	10662
10°	10665	10497	10563
15°	10541	10379	10398
20°	10394	10208	10219
25°	10200	10007	9987
30°	9984	9783	9708
35°	9759	9546	9423
40°	9524	9284	9140
45°	9266	9045	8824
50°	9008	8748	8505
55°	8668	8443	8188
60°	8325	8086	7830
65°	8023	7697	7457
70°	7578	7254	6930
75°	6924	6675	6392
80°	6248	5976	5926
85°	5483	5274	5064



TEST NUMBER: P331962-930

CATALOG NUMBER: S123DIP-S775D365U930-4F0-1E-UDD-F1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	93.5	2.6
10°-20°	264.1	7.3
20°-30°	390.1	10.8
30°-40°	455.7	12.7
40°-50°	458.1	12.7
50°-60°	402.4	11.2
60°-70°	299.8	8.3
70°-80°	170.8	4.7
80°-90°	50.1	1.4
90°-100°	23.9	0.7
100°-110°	71.5	2.0
110°-120°	121.6	3.4
120°-130°	160.0	4.4
130°-140°	179.8	5.0
140°-150°	176.8	4.9
150°-160°	148.8	4.1
160°-170°	99.1	2.8
170°-180°	34.7	1.0
0°-30°	747.7	20.8
0°-40°	1203.3	33.4
0°-60°	2063.8	57.3
0°-90°	2584.6	71.8
90°-120°	217.1	6.0
90°-150°	733.7	20.4
90°-180°	1016.0	28.2
0°-180°	3600.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	993	993	993	993	993	
5°	994	989	980	988	987	94
15°	946	942	931	938	933	267
25°	859	853	843	843	841	395
35°	743	737	726	721	717	464
45°	609	605	594	584	580	470
55°	462	460	450	441	436	414
65°	315	310	302	296	293	311
75°	166	163	160	156	154	178
85°	44	43	43	41	41	49
90°	0	3	7	8	9	3
95°	17	19	21	22	22	19
105°	65	66	68	68	69	69
115°	122	123	123	123	123	121
125°	179	180	180	178	177	160
135°	232	234	234	233	232	179
145°	282	283	284	283	282	176
155°	323	323	323	324	322	149
165°	352	351	351	352	351	99
175°	366	365	365	366	364	35
180°	367	367	367	367	367	



TEST NUMBER: P331962-930

CATALOG NUMBER: S123DIP-S775D365U930-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	992.9	992.9	992.9	992.9	992.9	992.9	992.9	992.9	992.9	992.9	992.9
2.5°	996.2	995.6	995.1	994.4	993.8	992.7	991.0	989.4	987.7	986.0	987.5
5°	993.7	992.7	991.8	990.8	989.9	988.4	986.3	984.2	982.1	980.0	981.9
7.5°	984.0	983.0	982.0	981.1	980.2	978.6	976.4	974.3	972.1	970.0	971.7
10°	975.8	974.8	973.9	972.9	972.0	970.3	967.8	965.3	962.9	960.4	962.1
12.5°	964.8	964.0	963.3	962.5	961.6	960.1	957.8	955.4	953.2	950.8	952.1
15°	945.9	945.1	944.4	943.6	942.8	941.3	938.7	936.3	933.8	931.4	932.9
17.5°	923.8	922.8	921.9	920.9	919.9	918.2	915.7	913.2	910.8	908.3	909.4
20°	907.4	906.3	905.2	904.1	902.9	901.1	898.6	896.2	893.7	891.2	892.0
22.5°	889.0	887.9	886.7	885.6	884.4	882.6	880.2	877.8	875.3	872.8	873.4
25°	858.8	857.7	856.6	855.4	854.3	852.5	849.9	847.5	845.1	842.6	842.8
27.5°	826.6	825.4	824.3	823.2	822.1	820.3	817.6	815.0	812.3	809.6	809.8
30°	803.3	802.3	801.4	800.5	799.5	797.7	795.1	792.4	789.8	787.1	787.1
32.5°	780.1	778.9	777.6	776.3	775.1	773.5	771.4	769.3	767.3	765.2	764.2
35°	742.7	741.6	740.5	739.3	738.2	736.4	733.9	731.4	729.0	726.5	725.4
37.5°	704.4	703.0	701.6	700.1	698.7	696.8	694.2	691.7	689.2	686.7	685.3
40°	677.8	676.7	675.6	674.4	673.3	671.4	668.7	666.1	663.4	660.7	659.3
42.5°	651.2	649.9	648.6	647.3	646.0	644.1	641.4	638.7	636.1	633.4	631.9
45°	608.7	607.9	607.2	606.4	605.6	604.1	601.5	599.1	596.6	594.2	591.9
47.5°	566.5	565.4	564.3	563.2	562.1	560.4	558.1	555.8	553.4	551.1	548.9
50°	537.9	536.9	535.9	535.0	534.0	532.3	529.9	527.4	524.9	522.4	520.4
52.5°	507.8	507.1	506.5	505.8	505.2	503.5	500.9	498.3	495.7	493.1	491.3
55°	461.9	461.6	461.5	461.3	461.1	459.7	457.3	454.9	452.3	449.9	447.8
57.5°	418.2	417.5	416.9	416.2	415.6	414.3	412.3	410.3	408.3	406.3	404.5
60°	386.7	386.5	386.4	386.1	386.0	384.7	382.5	380.2	377.9	375.6	373.9
62.5°	358.7	358.2	357.8	357.3	356.8	355.4	353.1	350.8	348.5	346.3	344.5
65°	315.0	314.1	313.1	312.2	311.2	309.8	307.9	306.0	304.1	302.2	300.7
67.5°	268.7	267.9	267.1	266.2	265.4	264.2	262.9	261.4	259.9	258.5	257.1
70°	240.8	239.6	238.5	237.3	236.2	235.1	233.9	232.8	231.6	230.5	229.2
72.5°	211.4	210.5	209.7	208.9	208.1	207.0	205.7	204.4	203.1	201.8	200.6
75°	166.5	165.7	164.9	164.2	163.5	162.7	162.2	161.6	161.0	160.5	159.6
77.5°	126.7	126.3	125.9	125.5	125.0	124.5	123.8	123.1	122.5	121.7	121.1
80°	100.8	100.2	99.6	99.1	98.5	98.0	97.6	97.3	96.9	96.4	96.3
82.5°	75.5	75.3	75.3	75.1	75.0	74.9	74.8	74.8	74.7	74.6	74.3
85°	44.4	44.0	43.6	43.3	42.9	42.7	42.7	42.7	42.7	42.7	42.3
87.5°	17.8	17.4	17.1	16.8	16.5	16.4	16.4	16.4	16.4	16.4	16.3
90°	0.3	0.9	1.5	2.2	2.9	3.6	4.4	5.2	6.1	6.9	7.2
92.5°	7.0	7.4	7.8	8.3	8.7	9.1	9.6	10.1	10.6	11.1	11.3
95°	17.0	17.4	17.9	18.3	18.8	19.2	19.8	20.3	20.8	21.4	21.6
97.5°	30.2	30.5	30.9	31.2	31.6	31.9	32.3	32.6	33.0	33.3	33.7
100°	39.2	39.5	39.9	40.4	40.7	41.1	41.4	41.7	42.1	42.3	42.6
102.5°	49.6	49.8	50.0	50.2	50.5	50.8	51.2	51.7	52.1	52.5	52.7
105°	64.8	65.0	65.1	65.2	65.3	65.7	66.3	66.9	67.4	68.0	68.0
107.5°	82.6	82.7	82.8	82.8	82.9	83.0	83.2	83.5	83.7	84.0	84.1
110°	93.7	93.8	93.9	94.0	94.2	94.2	94.4	94.6	94.7	94.8	95.1



TEST NUMBER: P331962-930

CATALOG NUMBER: S123DIP-S775D365U930-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	105.2	105.3	105.3	105.4	105.5	105.5	105.6	105.6	105.6	105.7	105.9
115°	122.5	122.6	122.9	123.0	123.2	123.3	123.1	123.0	122.9	122.7	122.8
117.5°	139.8	140.0	140.1	140.2	140.4	140.3	140.1	140.0	139.8	139.7	139.7
120°	150.7	151.1	151.5	151.8	152.2	152.2	152.0	151.6	151.3	151.0	150.9
122.5°	162.0	162.2	162.6	162.8	163.1	163.1	163.0	162.8	162.7	162.5	162.3
125°	179.2	179.4	179.6	179.8	180.0	180.0	179.9	179.8	179.6	179.5	179.2
127.5°	195.1	195.5	195.9	196.3	196.7	196.9	196.7	196.6	196.5	196.3	196.0
130°	205.7	206.2	206.8	207.2	207.7	207.9	207.7	207.6	207.3	207.2	206.9
132.5°	216.3	216.9	217.4	217.8	218.3	218.6	218.4	218.3	218.1	218.0	217.7
135°	232.5	232.9	233.3	233.7	234.1	234.2	234.2	234.1	234.0	234.0	233.7
137.5°	247.5	247.9	248.1	248.4	248.7	249.0	249.2	249.3	249.5	249.6	249.4
140°	257.9	258.2	258.5	258.9	259.2	259.3	259.4	259.4	259.5	259.6	259.5
142.5°	267.3	267.7	268.0	268.3	268.6	268.8	269.0	269.0	269.1	269.3	269.2
145°	282.1	282.2	282.3	282.4	282.6	282.7	282.9	283.2	283.3	283.5	283.5
147.5°	295.0	295.2	295.5	295.7	295.9	296.1	296.3	296.4	296.6	296.9	296.9
150°	303.9	304.1	304.2	304.4	304.5	304.6	304.8	304.8	305.0	305.1	305.1
152.5°	311.4	311.5	311.7	311.9	312.1	312.2	312.3	312.3	312.4	312.5	312.6
155°	323.0	323.0	323.0	323.0	323.0	323.0	323.1	323.1	323.2	323.3	323.5
157.5°	332.9	332.8	332.7	332.6	332.6	332.6	332.6	332.6	332.7	332.8	333.0
160°	339.1	339.0	338.8	338.8	338.6	338.5	338.5	338.5	338.5	338.5	338.8
162.5°	344.6	344.5	344.3	344.1	343.9	343.9	343.9	344.0	344.1	344.1	344.4
165°	351.8	351.6	351.4	351.2	351.0	350.9	350.9	350.9	350.9	350.9	351.3
167.5°	357.5	357.3	357.0	356.7	356.4	356.4	356.4	356.4	356.5	356.6	356.9
170°	360.7	360.4	360.2	360.0	359.7	359.5	359.5	359.5	359.5	359.5	360.0
172.5°	363.3	363.0	362.7	362.5	362.2	362.1	362.1	362.1	362.1	362.1	362.5
175°	365.9	365.7	365.4	365.2	364.9	364.8	364.8	364.8	364.8	364.8	365.2
177.5°	367.0	366.8	366.6	366.4	366.2	366.1	366.1	366.1	366.1	366.1	366.4
180°	366.8	366.8	366.8	366.8	366.8	366.8	366.8	366.8	366.8	366.8	366.8



TEST NUMBER: P331962-930

CATALOG NUMBER: S123DIP-S775D365U930-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	992.9	992.9	992.9	992.9	992.9	992.9	992.9	992.9
2.5°	989.0	990.6	992.1	992.8	992.6	992.5	992.3	992.1
5°	983.8	985.7	987.7	988.4	988.0	987.7	987.2	986.8
7.5°	973.4	975.1	976.8	977.5	977.3	977.1	976.8	976.6
10°	963.8	965.5	967.2	967.9	967.5	967.1	966.8	966.4
12.5°	953.3	954.6	955.9	956.3	956.1	955.9	955.7	955.4
15°	934.4	935.9	937.4	937.6	936.5	935.3	934.3	933.1
17.5°	910.4	911.5	912.6	912.9	912.5	912.1	911.7	911.3
20°	892.8	893.5	894.3	894.4	893.8	893.2	892.7	892.1
22.5°	874.0	874.7	875.2	875.1	874.5	873.8	873.0	872.3
25°	842.9	843.2	843.3	843.2	842.6	842.0	841.5	840.9
27.5°	809.9	810.1	810.2	809.9	809.3	808.5	807.8	807.1
30°	787.1	787.1	787.1	786.4	785.1	783.7	782.4	781.1
32.5°	763.1	762.1	761.0	760.1	759.4	758.6	757.9	757.2
35°	724.2	723.1	721.9	720.9	719.9	719.0	718.0	717.1
37.5°	684.0	682.6	681.3	680.3	679.6	679.1	678.4	677.8
40°	657.7	656.2	654.7	653.5	652.8	652.0	651.3	650.5
42.5°	630.4	628.8	627.4	626.2	625.5	624.7	623.9	623.2
45°	589.6	587.3	585.1	583.4	582.5	581.6	580.6	579.7
47.5°	546.7	544.5	542.2	540.6	539.8	539.0	538.2	537.3
50°	518.3	516.2	514.1	512.5	511.4	510.2	509.1	507.9
52.5°	489.5	487.7	485.9	484.5	483.4	482.2	481.1	480.0
55°	445.7	443.6	441.6	440.0	439.0	438.1	437.2	436.3
57.5°	402.6	400.8	398.9	397.5	396.3	395.3	394.1	393.1
60°	372.2	370.5	368.8	367.5	366.5	365.6	364.6	363.7
62.5°	342.8	341.1	339.4	338.3	337.6	337.0	336.3	335.7
65°	299.1	297.7	296.1	295.1	294.5	293.9	293.3	292.8
67.5°	255.8	254.5	253.2	252.1	251.4	250.5	249.7	248.9
70°	227.9	226.5	225.2	224.0	223.1	222.2	221.2	220.2
72.5°	199.4	198.3	197.1	196.2	195.8	195.3	194.8	194.3
75°	158.6	157.7	156.7	156.0	155.4	154.8	154.3	153.7
77.5°	120.4	119.8	119.1	118.9	118.9	118.9	118.9	118.9
80°	96.1	95.9	95.7	95.6	95.6	95.6	95.6	95.6
82.5°	73.9	73.6	73.2	73.0	72.9	72.7	72.6	72.4
85°	41.9	41.6	41.2	41.0	41.0	41.0	41.0	41.0
87.5°	16.2	16.1	16.0	16.0	16.0	16.0	16.1	16.1
90°	7.4	7.7	7.9	8.2	8.2	8.4	8.5	8.6
92.5°	11.5	11.7	11.9	12.0	11.9	11.8	11.7	11.7
95°	21.9	22.1	22.3	22.5	22.5	22.5	22.5	22.5
97.5°	33.9	34.2	34.6	34.7	34.7	34.7	34.6	34.6
100°	42.7	43.0	43.1	43.3	43.4	43.5	43.7	43.8
102.5°	52.9	53.1	53.2	53.3	53.3	53.3	53.2	53.2
105°	68.0	68.0	68.0	68.1	68.2	68.3	68.5	68.6
107.5°	84.4	84.5	84.8	84.9	84.8	84.7	84.6	84.5
110°	95.3	95.6	95.8	95.9	95.7	95.6	95.5	95.4





TEST NUMBER: P331962-930

CATALOG NUMBER: S123DIP-S775D365U930-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	106.2	106.6	106.9	107.0	107.0	107.0	106.9	106.9
115°	122.9	122.9	123.0	123.0	122.9	122.9	122.8	122.7
117.5°	139.7	139.7	139.7	139.5	139.3	139.2	139.0	138.8
120°	150.8	150.7	150.7	150.6	150.5	150.3	150.3	150.1
122.5°	162.2	162.0	161.8	161.7	161.5	161.3	161.1	160.9
125°	179.0	178.7	178.5	178.2	178.0	177.7	177.4	177.2
127.5°	195.6	195.3	194.9	194.5	194.3	194.0	193.7	193.4
130°	206.7	206.4	206.1	205.8	205.4	204.9	204.5	204.0
132.5°	217.4	217.0	216.8	216.5	216.1	215.7	215.4	215.1
135°	233.4	233.2	232.9	232.8	232.6	232.4	232.4	232.2
137.5°	249.2	248.9	248.6	248.3	248.1	247.9	247.6	247.4
140°	259.4	259.4	259.3	259.1	258.6	258.2	257.7	257.3
142.5°	269.1	269.0	269.0	268.8	268.5	268.2	267.7	267.4
145°	283.4	283.3	283.2	283.1	282.8	282.6	282.3	282.1
147.5°	296.9	296.9	296.9	296.6	296.3	295.9	295.5	295.1
150°	305.1	305.1	305.1	304.9	304.5	304.2	303.8	303.4
152.5°	312.7	312.8	312.9	312.7	312.4	312.1	311.8	311.4
155°	323.8	324.0	324.3	324.2	323.8	323.3	322.9	322.4
157.5°	333.3	333.6	333.9	333.8	333.5	333.1	332.7	332.4
160°	339.2	339.5	339.8	339.8	339.6	339.3	339.1	338.8
162.5°	344.7	345.0	345.4	345.3	344.9	344.5	344.1	343.6
165°	351.7	352.0	352.5	352.5	352.0	351.6	351.1	350.7
167.5°	357.3	357.8	358.2	358.2	357.8	357.3	356.9	356.6
170°	360.4	360.9	361.3	361.3	360.9	360.4	360.0	359.5
172.5°	362.9	363.3	363.7	363.7	363.2	362.8	362.3	361.9
175°	365.5	365.9	366.3	366.2	365.8	365.3	364.9	364.4
177.5°	366.7	367.0	367.3	367.3	367.0	366.6	366.2	365.8
180°	366.8	366.8	366.8	366.8	366.8	366.8	366.8	366.8

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