

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: P332189-930

Luminaire Tested: **S123DIW-S1000D755U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332189-930  
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: S123DIW-S1000D755U930-4F0-1E-UDD-D1  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 755 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

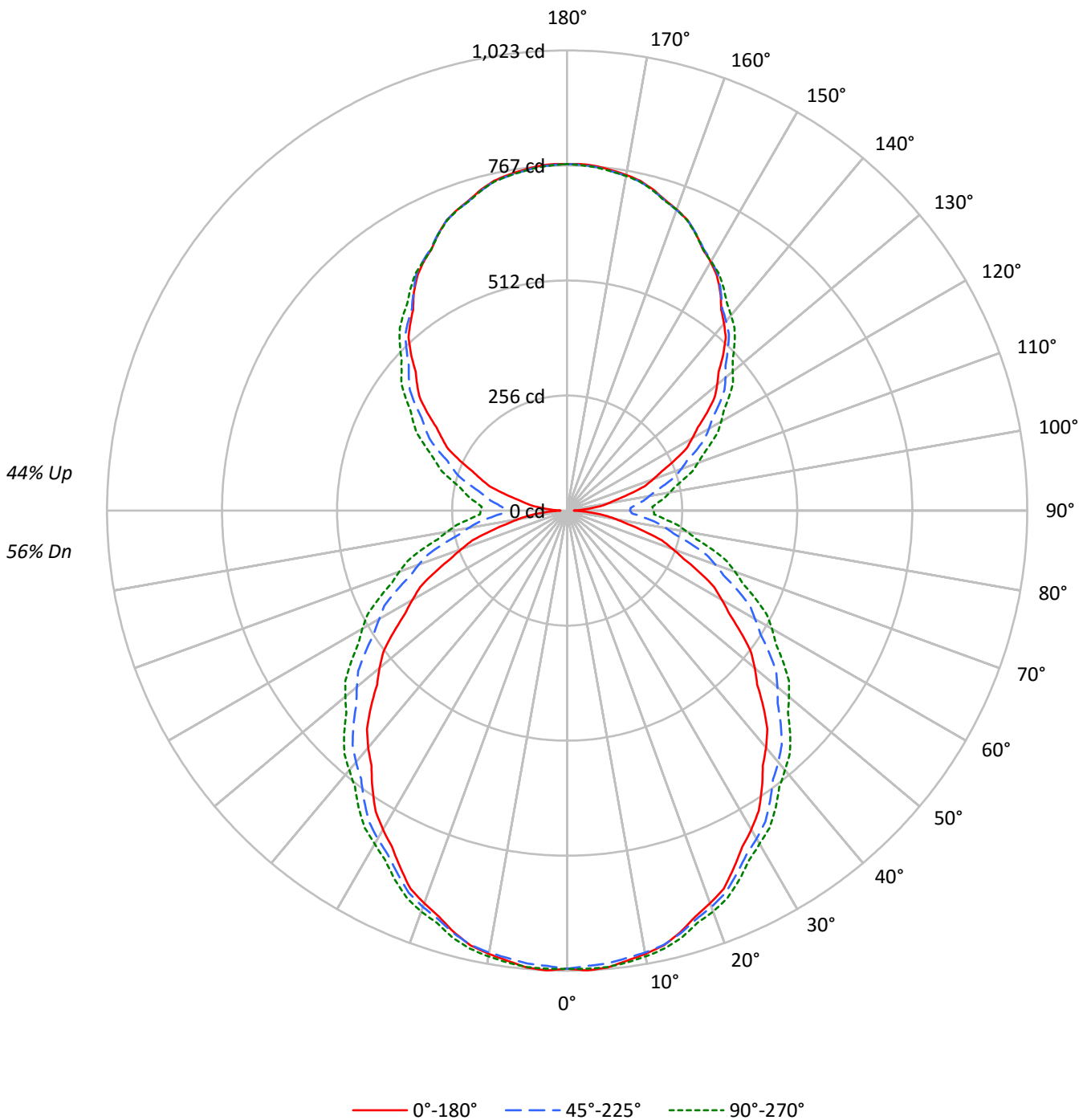
Lumens per Lamp: N/A  
Luminaire Lumens: 5559.8 lumens  
Efficiency: N/A  
Efficacy: 103.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: General Diffuse  
  
Input Watts (W): 53.6  
Input Voltage (V): 120  
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			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	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	56
1	98	93	89	85	91	87	83	79	74	72	69	63	61	59	53	51	50	45
2	89	81	74	68	82	75	69	64	65	60	56	55	51	49	46	43	41	37
3	81	71	63	56	75	66	59	53	57	51	47	48	44	41	40	37	35	31
4	74	62	54	47	68	58	51	45	50	44	40	43	38	34	36	32	29	26
5	68	55	47	40	62	52	44	38	45	39	34	38	33	30	32	28	26	22
6	62	50	41	35	57	46	39	33	40	34	29	34	30	26	29	25	22	19
7	57	45	36	31	53	42	34	29	36	30	26	31	26	23	27	23	20	17
8	53	41	33	27	49	38	31	26	33	27	23	29	24	20	24	21	18	15
9	50	37	29	24	46	35	28	23	30	25	20	26	22	18	22	19	16	14
10	46	34	26	22	43	32	25	20	28	22	18	24	20	16	21	17	14	12

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

	0°	45°	90°
0°	10964	10964	10964
5°	10999	10689	10694
10°	10900	10443	10390
15°	10759	10162	10058
20°	10559	9844	9692
25°	10311	9476	9308
30°	10057	9145	8918
35°	9773	8796	8606
40°	9500	8479	8272
45°	9199	8172	8007
50°	8904	7871	7713
55°	8574	7562	7449
60°	8255	7248	7178
65°	7926	6915	6856
70°	7430	6538	6527
75°	6807	6107	6190
80°	6087	5683	5807
85°	5426	5394	5585



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	96.6	1.7
10°-20°	275.3	5.0
20°-30°	411.7	7.4
30°-40°	491.7	8.8
40°-50°	514.4	9.3
50°-60°	482.8	8.7
60°-70°	403.2	7.3
70°-80°	288.5	5.2
80°-90°	174.3	3.1
90°-100°	158.1	2.8
100°-110°	229.5	4.1
110°-120°	308.5	5.5
120°-130°	366.3	6.6
130°-140°	391.3	7.0
140°-150°	374.2	6.7
150°-160°	312.6	5.6
160°-170°	208.1	3.7
170°-180°	72.9	1.3
0°-30°	783.6	14.1
0°-40°	1275.2	22.9
0°-60°	2272.4	40.9
0°-90°	3138.4	56.4
90°-120°	696.1	12.5
90°-150°	1827.9	32.9
90°-180°	2421.0	43.5
0°-180°	5559.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1019	1019	1019	1019	1019	
5°	1020	1017	1011	1019	1019	97
15°	971	974	973	984	983	273
25°	877	887	891	905	906	404
35°	755	772	787	803	808	472
45°	617	644	671	692	701	476
55°	470	507	547	576	586	421
65°	325	369	417	449	462	321
75°	176	229	284	319	334	188
85°	54	110	169	205	218	57
90°	15	76	140	178	192	12
95°	48	96	155	190	202	50
105°	145	174	226	256	268	155
115°	263	279	317	343	352	260
125°	380	383	412	432	439	339
135°	491	494	505	522	527	378
145°	594	594	596	603	606	370
155°	678	678	679	681	677	312
165°	739	737	737	740	736	208
175°	768	766	766	769	766	73
180°	770	770	770	770	770	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6
2.5°	1023.1	1022.5	1021.9	1021.3	1020.8	1019.6	1018.1	1016.5	1014.9	1013.3	1014.9
5°	1019.8	1019.3	1018.8	1018.3	1017.8	1016.8	1015.4	1013.8	1012.4	1010.9	1012.8
7.5°	1009.7	1009.9	1010.0	1010.1	1010.2	1009.5	1008.1	1006.7	1005.2	1003.8	1006.2
10°	1000.9	1001.4	1001.9	1002.4	1002.9	1002.5	1001.3	1000.0	998.8	997.6	1000.0
12.5°	990.3	990.9	991.6	992.3	993.0	993.0	992.1	991.2	990.4	989.6	991.9
15°	970.9	971.7	972.4	973.1	973.9	974.1	973.9	973.6	973.4	973.1	975.7
17.5°	946.6	948.0	949.5	951.0	952.4	953.2	953.1	952.9	952.8	952.8	955.0
20°	928.8	930.3	931.7	933.2	934.7	935.7	936.2	936.7	937.2	937.7	939.9
22.5°	910.1	911.6	913.1	914.6	916.1	917.1	917.9	918.5	919.2	919.9	922.7
25°	876.6	879.1	881.6	884.0	886.5	888.1	888.8	889.6	890.3	891.0	894.2
27.5°	842.9	845.7	848.5	851.3	854.1	856.3	857.9	859.5	861.0	862.7	865.4
30°	818.9	822.1	825.3	828.5	831.8	834.3	836.3	838.3	840.2	842.2	845.2
32.5°	792.3	795.9	799.5	803.1	806.7	809.8	812.4	814.9	817.5	820.0	823.2
35°	754.6	758.5	762.5	766.4	770.4	773.9	777.1	780.3	783.5	786.8	790.4
37.5°	714.6	719.1	723.5	727.9	732.4	736.5	740.5	744.4	748.4	752.4	756.5
40°	687.9	692.4	696.8	701.3	705.7	710.5	715.3	720.3	725.2	730.2	734.3
42.5°	658.7	664.1	669.5	675.0	680.4	685.7	690.8	695.9	701.1	706.2	710.8
45°	616.9	622.9	628.8	634.7	640.7	646.7	652.8	659.0	665.2	671.3	676.0
47.5°	573.2	579.9	586.7	593.4	600.1	607.0	614.0	621.1	628.1	635.2	640.4
50°	544.9	551.7	558.6	565.6	572.4	579.8	587.3	595.0	602.7	610.3	616.0
52.5°	514.6	522.0	529.3	536.5	543.9	551.7	560.2	568.6	577.0	585.5	591.3
55°	470.5	478.7	486.7	494.9	503.0	511.5	520.4	529.3	538.2	547.1	553.8
57.5°	427.5	435.9	444.4	452.9	461.4	470.5	480.2	489.9	499.6	509.3	516.0
60°	397.3	406.1	415.0	423.9	432.8	442.2	452.3	462.5	472.6	482.7	489.6
62.5°	368.8	377.9	387.0	396.1	405.1	415.1	425.7	436.4	447.1	457.9	464.7
65°	325.1	334.8	344.4	354.0	363.6	373.8	384.7	395.5	406.3	417.3	424.6
67.5°	280.7	291.0	301.2	311.4	321.6	332.2	343.2	354.3	365.3	376.4	384.5
70°	249.6	260.2	270.8	281.5	292.1	303.3	315.1	327.0	338.8	350.7	358.6
72.5°	221.3	231.9	242.5	253.1	263.7	275.1	287.3	299.5	311.8	324.0	332.1
75°	176.4	188.0	199.6	211.2	222.8	234.7	247.1	259.4	271.7	284.1	292.2
77.5°	137.4	149.0	160.8	172.4	184.1	196.2	208.6	221.0	233.5	245.9	254.5
80°	109.8	122.0	134.0	146.1	158.2	170.6	183.4	196.3	209.1	221.9	230.3
82.5°	85.9	98.2	110.5	122.7	135.0	147.7	160.7	173.7	186.7	199.7	208.1
85°	54.4	66.7	79.0	91.4	103.7	116.4	129.5	142.5	155.6	168.7	177.1
87.5°	29.7	42.2	54.7	67.3	79.8	92.5	105.5	118.5	131.3	144.3	152.8
90°	15.0	28.5	41.9	55.3	68.7	82.6	96.9	111.3	125.6	139.9	148.9
92.5°	28.2	40.0	51.8	63.6	75.4	88.1	101.4	114.8	128.2	141.5	150.2
95°	47.9	58.5	69.1	79.6	90.2	102.0	115.1	128.3	141.5	154.7	162.8
97.5°	74.3	83.6	93.0	102.4	111.8	122.6	135.0	147.3	159.6	171.9	179.9
100°	92.3	101.0	109.7	118.4	127.1	137.5	149.4	161.4	173.5	185.5	193.1
102.5°	113.2	120.7	128.3	135.9	143.5	153.4	165.3	177.4	189.5	201.5	208.8
105°	145.0	151.2	157.4	163.6	169.7	178.8	190.6	202.4	214.3	226.0	232.9
107.5°	181.0	186.1	191.4	196.6	201.8	209.6	220.1	230.7	241.2	251.8	258.9
110°	203.3	208.1	212.7	217.4	222.2	229.6	239.7	249.8	260.0	270.1	277.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	227.6	231.4	235.1	239.0	242.8	249.5	258.9	268.5	278.0	287.6	294.4
115°	262.8	266.1	269.5	272.8	276.2	282.2	290.8	299.4	308.0	316.6	322.7
117.5°	299.1	301.2	303.3	305.3	307.4	312.5	320.5	328.5	336.5	344.4	350.3
120°	320.9	322.9	325.0	327.0	329.1	333.9	341.3	348.8	356.2	363.7	369.2
122.5°	344.6	345.8	347.2	348.4	349.6	353.9	361.3	368.7	376.1	383.4	388.6
125°	379.8	380.2	380.5	380.9	381.3	385.0	391.8	398.8	405.6	412.5	417.2
127.5°	413.1	413.8	414.3	415.0	415.6	418.7	424.4	430.0	435.6	441.2	445.3
130°	435.4	436.3	437.1	437.9	438.7	441.4	446.0	450.5	455.0	459.5	463.7
132.5°	456.8	457.8	458.9	459.8	460.9	463.3	466.8	470.5	474.2	477.8	481.7
135°	490.6	491.1	491.7	492.3	492.8	494.4	496.9	499.5	502.1	504.7	508.6
137.5°	521.8	522.3	522.8	523.3	523.7	524.9	526.8	528.6	530.5	532.4	535.7
140°	542.7	543.4	544.0	544.7	545.4	546.2	547.1	548.0	548.8	549.7	553.3
142.5°	562.6	563.0	563.5	564.0	564.4	564.9	565.3	565.7	566.1	566.5	569.6
145°	593.5	593.5	593.6	593.6	593.6	593.9	594.3	594.7	595.1	595.5	597.3
147.5°	619.5	620.0	620.5	621.0	621.5	621.9	622.3	622.6	623.1	623.5	624.0
150°	638.5	638.7	639.0	639.3	639.5	639.8	640.0	640.3	640.6	640.8	640.8
152.5°	654.0	654.3	654.7	655.1	655.4	655.7	655.8	656.0	656.2	656.3	656.6
155°	678.4	678.4	678.4	678.4	678.4	678.4	678.6	678.7	678.8	679.0	679.6
157.5°	699.2	699.0	698.9	698.7	698.5	698.5	698.6	698.7	698.9	699.0	699.5
160°	712.2	712.0	711.8	711.4	711.2	711.0	711.0	711.0	711.0	711.0	711.8
162.5°	723.9	723.5	723.1	722.8	722.4	722.3	722.4	722.4	722.6	722.7	723.3
165°	738.9	738.5	738.1	737.7	737.3	737.0	737.0	737.0	737.0	737.0	737.8
167.5°	750.9	750.3	749.8	749.3	748.7	748.5	748.6	748.7	748.9	748.9	749.7
170°	757.7	757.1	756.6	756.0	755.5	755.2	755.2	755.2	755.2	755.2	756.2
172.5°	763.0	762.5	761.9	761.3	760.8	760.5	760.5	760.5	760.5	760.5	761.4
175°	768.5	768.0	767.4	767.0	766.4	766.1	766.1	766.1	766.1	766.1	767.0
177.5°	770.9	770.4	770.0	769.6	769.2	768.9	768.9	768.9	768.9	768.9	769.6
180°	770.4	770.4	770.4	770.4	770.4	770.4	770.4	770.4	770.4	770.4	770.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6
2.5°	1016.5	1018.1	1019.6	1020.3	1020.1	1019.9	1019.8	1019.5
5°	1014.8	1016.8	1018.8	1019.6	1019.4	1019.1	1018.9	1018.6
7.5°	1008.7	1011.2	1013.7	1014.7	1014.5	1014.2	1013.8	1013.6
10°	1002.5	1004.9	1007.5	1008.4	1008.0	1007.5	1007.0	1006.5
12.5°	994.1	996.4	998.7	999.6	999.1	998.6	998.1	997.6
15°	978.1	980.6	983.0	984.1	983.9	983.7	983.4	983.2
17.5°	957.2	959.4	961.6	962.5	962.2	961.9	961.6	961.2
20°	942.1	944.3	946.6	947.8	948.0	948.3	948.5	948.8
22.5°	925.5	928.3	931.2	932.5	932.3	932.2	932.1	931.9
25°	897.5	900.7	903.8	905.5	905.5	905.5	905.5	905.5
27.5°	868.1	870.9	873.7	875.1	875.4	875.5	875.8	876.0
30°	848.2	851.1	854.0	855.6	855.6	855.6	855.6	855.6
32.5°	826.4	829.5	832.7	834.5	835.1	835.7	836.3	836.9
35°	794.1	797.9	801.5	803.9	804.9	805.8	806.8	807.8
37.5°	760.8	764.9	769.2	771.6	772.4	773.1	774.0	774.8
40°	738.5	742.7	746.9	749.5	750.5	751.5	752.4	753.4
42.5°	715.3	719.9	724.6	727.5	728.9	730.3	731.6	733.0
45°	680.7	685.4	690.1	693.4	695.4	697.3	699.4	701.3
47.5°	645.7	651.0	656.2	659.7	661.2	662.8	664.2	665.8
50°	621.7	627.3	633.0	636.7	638.5	640.2	641.9	643.6
52.5°	597.2	603.1	608.9	612.9	615.1	617.2	619.3	621.4
55°	560.4	567.0	573.7	578.0	580.0	582.0	583.9	585.9
57.5°	522.8	529.5	536.1	540.7	543.0	545.3	547.6	549.9
60°	496.5	503.4	510.3	515.1	517.9	520.6	523.3	525.9
62.5°	471.7	478.6	485.4	490.2	492.7	495.2	497.7	500.3
65°	432.0	439.4	446.8	451.8	454.2	456.6	459.2	461.6
67.5°	392.6	400.6	408.7	413.8	415.9	418.0	420.0	422.1
70°	366.4	374.3	382.2	387.4	389.9	392.3	394.8	397.3
72.5°	340.2	348.3	356.4	361.7	364.1	366.6	369.1	371.5
75°	300.4	308.5	316.6	322.2	325.1	328.1	331.0	334.0
77.5°	263.1	271.7	280.2	285.7	287.9	290.2	292.4	294.7
80°	238.7	247.1	255.4	260.9	263.3	265.8	268.3	270.8
82.5°	216.5	224.9	233.3	238.7	241.2	243.6	246.1	248.6
85°	185.4	193.8	202.2	207.7	210.1	212.5	215.0	217.5
87.5°	161.3	169.7	178.2	183.8	186.3	188.8	191.3	193.8
90°	157.8	166.6	175.6	181.4	184.2	186.9	189.6	192.4
92.5°	158.7	167.4	176.0	181.3	183.4	185.6	187.7	189.8
95°	171.0	179.2	187.4	192.7	195.2	197.6	200.1	202.5
97.5°	187.8	195.8	203.8	209.0	211.4	213.9	216.2	218.7
100°	200.6	208.1	215.7	220.9	223.6	226.3	229.1	231.8
102.5°	216.2	223.6	230.9	235.8	238.2	240.6	243.0	245.4
105°	239.9	246.8	253.6	258.4	260.8	263.3	265.8	268.3
107.5°	265.9	272.9	280.0	284.5	286.5	288.5	290.5	292.5
110°	284.1	291.0	297.9	302.2	303.9	305.7	307.4	309.1





TEST NUMBER: P332189-930

CATALOG NUMBER: S123DIW-S1000D755U930-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	301.3	308.1	315.0	319.4	321.6	323.7	325.8	327.9
115°	328.7	334.8	340.8	344.8	346.6	348.5	350.3	352.1
117.5°	356.1	361.9	367.8	371.5	373.0	374.5	376.1	377.6
120°	374.8	380.3	385.9	389.4	390.8	392.2	393.7	395.2
122.5°	393.7	398.8	404.0	407.2	408.5	409.9	411.2	412.6
125°	421.8	426.4	431.0	434.0	435.2	436.3	437.6	438.7
127.5°	449.5	453.6	457.7	460.3	461.4	462.4	463.5	464.6
130°	467.8	472.0	476.1	478.4	479.0	479.6	480.0	480.6
132.5°	485.5	489.3	493.2	495.6	496.5	497.5	498.5	499.4
135°	512.5	516.4	520.3	522.8	523.7	524.6	525.6	526.6
137.5°	539.1	542.4	545.8	547.8	548.5	549.2	549.9	550.7
140°	556.8	560.4	563.9	565.9	566.1	566.5	566.7	567.0
142.5°	572.8	576.0	579.1	581.0	581.5	582.0	582.5	583.0
145°	599.2	601.0	602.8	604.0	604.4	604.9	605.3	605.8
147.5°	624.6	625.2	625.8	626.1	626.2	626.3	626.4	626.5
150°	640.8	640.8	640.8	640.7	640.4	640.1	639.8	639.4
152.5°	656.8	657.0	657.2	657.0	656.4	655.8	655.2	654.6
155°	680.0	680.6	681.1	680.9	680.0	679.1	678.1	677.2
157.5°	700.1	700.7	701.2	701.1	700.3	699.6	698.9	698.1
160°	712.4	713.1	713.7	713.8	713.3	712.7	712.2	711.7
162.5°	724.0	724.7	725.4	725.3	724.4	723.6	722.7	721.8
165°	738.7	739.5	740.3	740.2	739.3	738.3	737.4	736.5
167.5°	750.6	751.5	752.3	752.3	751.5	750.6	749.7	748.9
170°	757.1	758.1	759.0	759.0	758.1	757.1	756.2	755.2
172.5°	762.2	763.0	763.9	763.9	762.9	762.0	761.0	760.1
175°	767.8	768.5	769.3	769.3	768.3	767.4	766.5	765.5
177.5°	770.2	770.9	771.5	771.4	770.7	769.9	769.2	768.4
180°	770.4	770.4	770.4	770.4	770.4	770.4	770.4	770.4

(END OF REPORT)