

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: P331836-930

Luminaire Tested: **S122RDIW-S865D970U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331836-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122RDIW-S865D970U930-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 970 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5198.8 lumens
Efficiency: N/A
Efficacy: 84.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

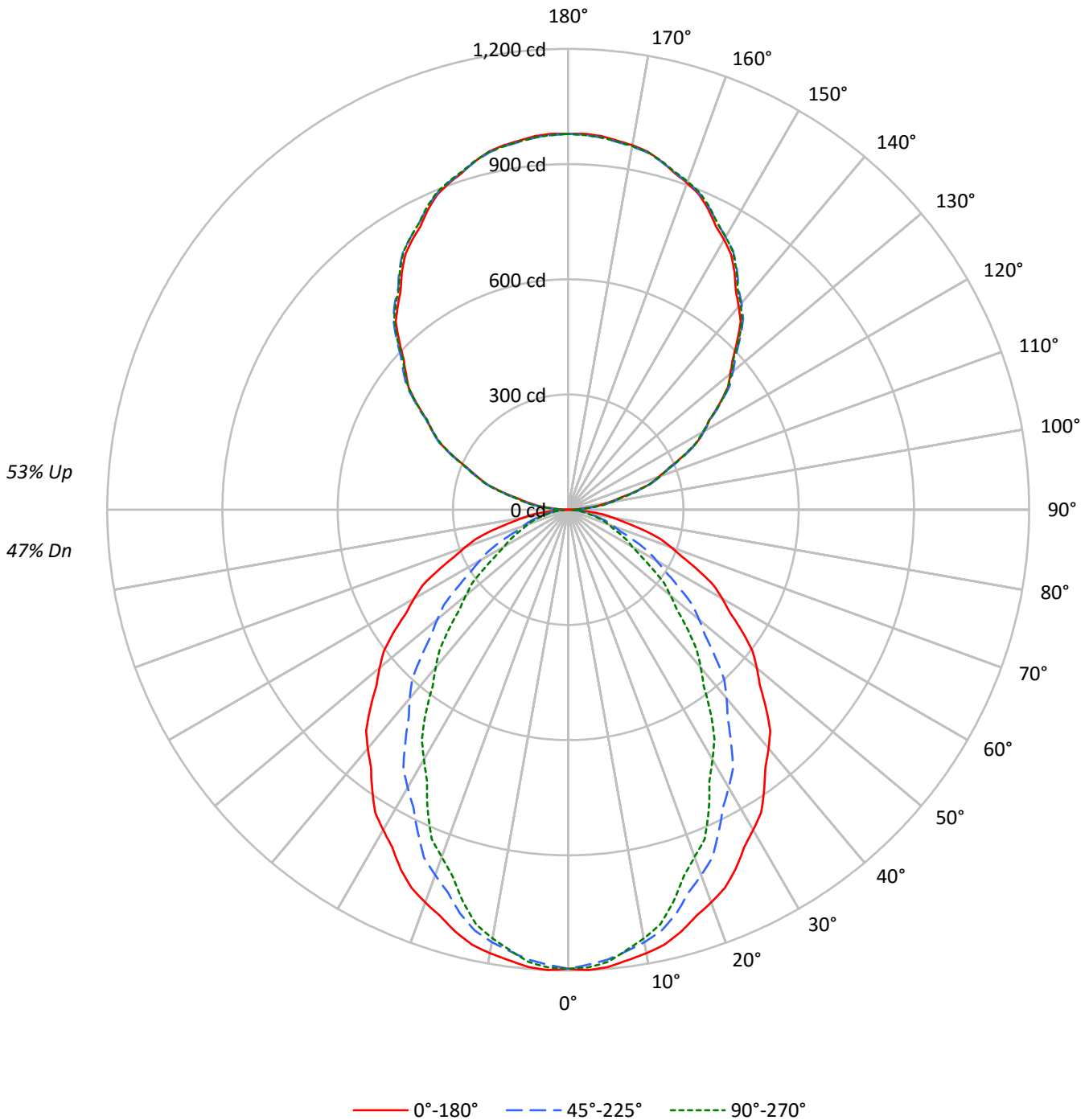
Input Watts (W): 61.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	98	98	98	98	82	82	82	67	67	67	54	54	54	47
1	98	93	90	86	90	86	83	80	72	70	68	60	58	57	48	47	46	41
2	89	82	76	71	82	76	71	66	64	60	57	53	50	48	43	41	40	35
3	82	73	66	60	75	67	61	56	57	52	49	47	44	41	38	36	34	30
4	75	65	57	51	69	60	53	48	51	46	42	42	39	36	35	32	30	26
5	69	58	50	44	63	54	47	41	46	40	36	38	34	31	31	29	26	23
6	64	52	44	38	58	48	41	36	41	36	32	35	31	28	29	26	23	20
7	59	47	39	34	54	44	37	32	38	32	28	32	28	25	26	23	21	18
8	55	43	35	30	50	40	33	28	34	29	25	29	25	22	24	21	19	17
9	51	39	32	27	47	37	30	25	32	26	23	27	23	20	22	19	17	15
10	48	36	29	24	44	34	27	23	29	24	21	25	21	18	21	18	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19302	19302	19302
5°	19376	19060	19164
10°	19226	18748	18589
15°	19005	18191	17668
20°	18699	17399	16526
25°	18387	16498	15419
30°	17952	15571	13998
35°	17527	14564	12751
40°	17102	13523	11310
45°	16600	12353	10003
50°	16088	11170	8721
55°	15564	9897	7491
60°	14951	8561	6219
65°	14258	7194	5662
70°	13430	5925	5207
75°	12420	5402	4860
80°	10962	4826	4426
85°	8633	3798	3798



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.9	2.2
10°-20°	307.2	5.9
20°-30°	431.5	8.3
30°-40°	470.5	9.0
40°-50°	432.6	8.3
50°-60°	339.7	6.5
60°-70°	221.5	4.3
70°-80°	114.2	2.2
80°-90°	33.5	0.6
90°-100°	62.0	1.2
100°-110°	192.6	3.7
110°-120°	329.2	6.3
120°-130°	432.9	8.3
130°-140°	485.9	9.3
140°-150°	476.4	9.2
150°-160°	399.6	7.7
160°-170°	265.0	5.1
170°-180°	92.6	1.8
0°-30°	850.6	16.4
0°-40°	1321.1	25.4
0°-60°	2093.4	40.3
0°-90°	2462.6	47.4
90°-120°	583.8	11.2
90°-150°	1979.0	38.1
90°-180°	2736.0	52.6
0°-180°	5198.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1196	1196	1196	1196	1196	
5°	1196	1190	1176	1185	1182	113
15°	1137	1124	1088	1068	1057	320
25°	1032	995	926	883	866	474
35°	889	832	739	673	647	556
45°	727	652	541	467	438	561
55°	553	467	352	289	266	494
65°	373	285	188	153	148	370
75°	199	126	87	79	78	211
85°	47	25	20	20	20	55
90°	1	11	29	27	28	4
95°	43	51	53	53	51	49
105°	178	180	182	183	183	188
115°	330	335	334	333	330	327
125°	481	488	486	483	482	429
135°	622	630	632	632	629	480
145°	755	760	766	766	763	471
155°	863	865	868	872	870	397
165°	939	938	938	943	940	265
175°	977	974	973	978	974	93
180°	978	978	978	978	978	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5
2.5°	1199.8	1198.8	1197.8	1196.9	1196.0	1194.4	1192.3	1190.2	1188.1	1185.9	1187.9
5°	1195.5	1194.3	1193.0	1191.8	1190.7	1188.5	1185.4	1182.3	1179.1	1176.0	1178.1
7.5°	1183.1	1181.6	1180.1	1178.7	1177.1	1174.6	1170.9	1167.3	1163.6	1159.9	1160.6
10°	1172.7	1171.0	1169.4	1167.7	1166.0	1162.8	1158.0	1153.2	1148.3	1143.5	1142.8
12.5°	1159.8	1157.6	1155.6	1153.6	1151.4	1147.4	1141.2	1135.1	1128.9	1122.7	1121.4
15°	1137.0	1134.4	1131.7	1129.1	1126.4	1121.0	1112.9	1104.7	1096.5	1088.3	1083.8
17.5°	1109.1	1105.1	1101.1	1097.0	1093.0	1085.7	1075.2	1064.7	1054.3	1043.7	1038.4
20°	1088.3	1083.5	1078.7	1073.9	1069.1	1060.7	1048.6	1036.7	1024.7	1012.6	1006.6
22.5°	1065.8	1060.5	1055.1	1049.7	1044.3	1034.9	1021.2	1007.7	994.2	980.6	972.8
25°	1032.1	1024.4	1016.7	1009.0	1001.4	989.5	973.6	957.8	941.9	926.1	916.2
27.5°	991.4	983.0	974.7	966.3	958.0	944.9	926.9	909.1	891.1	873.3	861.8
30°	962.9	953.7	944.6	935.5	926.3	912.2	892.9	873.7	854.4	835.2	823.0
32.5°	935.1	924.5	913.8	903.1	892.4	877.3	857.7	838.0	818.5	798.8	784.9
35°	889.2	877.0	864.8	852.5	840.2	823.5	802.3	781.2	760.1	738.9	723.7
37.5°	843.4	830.0	816.5	803.0	789.5	771.5	749.0	726.4	703.9	681.3	664.6
40°	811.4	797.0	782.5	768.1	753.7	734.8	711.5	688.2	664.9	641.6	624.4
42.5°	778.5	763.3	748.1	733.0	717.7	698.1	674.0	649.9	625.8	601.7	584.1
45°	727.0	710.9	694.8	678.7	662.6	641.9	616.7	591.4	566.1	541.0	523.8
47.5°	676.8	659.7	642.7	625.6	608.5	586.9	560.9	534.8	508.7	482.7	465.8
50°	640.5	623.4	606.3	589.2	572.2	550.4	524.0	497.5	471.1	444.7	428.0
52.5°	605.0	587.1	569.3	551.5	533.6	511.8	485.9	460.0	434.1	408.3	392.2
55°	552.9	534.1	515.4	496.6	477.8	455.4	429.5	403.5	377.6	351.6	337.2
57.5°	499.4	480.1	460.9	441.6	422.5	400.4	375.4	350.4	325.5	300.5	287.3
60°	463.0	443.8	424.6	405.4	386.1	364.1	339.3	314.5	289.8	265.1	252.8
62.5°	427.5	408.3	389.1	369.8	350.6	329.2	305.6	282.0	258.4	234.7	223.1
65°	373.2	353.8	334.3	314.8	295.4	274.8	253.2	231.5	209.9	188.3	180.1
67.5°	320.9	301.6	282.3	262.9	243.5	224.1	204.7	185.2	165.8	146.3	142.5
70°	284.5	265.8	247.0	228.3	209.5	191.8	175.3	158.7	142.1	125.5	123.1
72.5°	249.9	232.0	213.9	196.0	178.0	162.3	149.0	135.7	122.4	109.1	107.0
75°	199.1	182.2	165.4	148.5	131.8	119.3	111.0	102.9	94.7	86.6	84.9
77.5°	149.1	134.3	119.5	104.8	90.0	80.7	76.7	72.8	68.9	64.9	63.9
80°	117.9	105.7	93.4	81.1	68.9	61.6	59.1	56.7	54.3	51.9	51.0
82.5°	89.4	79.8	70.2	60.7	51.1	45.5	43.9	42.2	40.6	39.0	38.4
85°	46.6	41.5	36.4	31.4	26.3	23.5	22.7	22.0	21.3	20.5	20.5
87.5°	14.0	12.9	11.8	10.7	9.6	9.5	10.3	11.1	11.9	12.7	12.5
90°	0.8	3.0	5.2	7.4	9.6	12.7	16.8	20.8	24.9	28.9	28.5
92.5°	14.7	16.3	17.9	19.6	21.2	22.4	23.4	24.4	25.3	26.3	26.3
95°	43.0	44.8	46.6	48.4	50.3	51.4	51.8	52.1	52.5	52.8	52.8
97.5°	78.4	80.1	81.7	83.3	84.9	86.1	86.7	87.5	88.1	88.9	88.9
100°	104.8	106.3	107.8	109.3	110.7	111.8	112.3	112.8	113.4	114.0	114.0
102.5°	132.6	133.8	134.9	136.2	137.3	138.3	138.9	139.7	140.3	141.0	141.2
105°	177.6	178.1	178.6	179.2	179.8	180.2	180.6	180.9	181.3	181.6	182.1
107.5°	222.8	223.6	224.4	225.2	226.0	226.4	226.4	226.4	226.4	226.4	226.6
110°	251.8	253.0	254.0	255.2	256.2	256.8	256.8	256.8	256.8	256.8	256.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	283.6	284.7	285.8	286.9	288.0	288.5	288.3	288.1	288.0	287.9	287.4
115°	330.3	331.4	332.5	333.6	334.7	335.1	334.7	334.4	333.9	333.6	333.5
117.5°	376.9	378.4	379.8	381.3	382.8	382.9	382.0	380.9	379.9	378.9	378.5
120°	408.0	409.4	410.9	412.4	413.8	413.8	412.4	410.9	409.4	408.0	408.0
122.5°	436.3	438.1	439.9	441.6	443.4	443.8	442.7	441.7	440.7	439.6	439.2
125°	480.6	482.2	483.9	485.6	487.2	487.8	487.2	486.7	486.1	485.6	485.0
127.5°	523.7	525.8	527.9	530.0	532.1	532.8	532.1	531.5	530.8	530.2	529.5
130°	550.8	553.2	555.5	558.0	560.4	561.3	561.0	560.6	560.3	559.9	559.5
132.5°	581.1	583.1	585.1	587.0	589.0	590.0	590.0	590.1	590.2	590.3	589.5
135°	621.8	623.9	625.8	627.9	629.9	631.0	631.4	631.8	632.2	632.5	632.3
137.5°	664.6	666.3	667.9	669.5	671.2	672.3	672.7	673.2	673.7	674.2	674.0
140°	690.3	692.0	693.7	695.3	696.9	698.2	699.2	700.1	701.0	701.9	701.9
142.5°	716.8	718.4	720.1	721.7	723.4	724.6	725.1	725.8	726.4	727.0	727.2
145°	754.7	756.0	757.3	758.6	759.9	761.1	762.2	763.3	764.4	765.5	765.6
147.5°	788.6	790.2	791.7	793.2	794.8	795.9	796.6	797.4	798.1	798.8	799.2
150°	811.7	812.9	813.9	815.1	816.1	817.1	817.8	818.6	819.3	820.0	820.5
152.5°	832.3	833.3	834.5	835.5	836.7	837.6	838.5	839.4	840.2	841.1	841.8
155°	862.9	863.5	864.1	864.6	865.1	865.7	866.3	866.8	867.3	867.9	868.8
157.5°	889.2	889.6	889.9	890.3	890.6	891.0	891.4	891.7	892.0	892.3	893.6
160°	905.1	905.4	905.8	906.1	906.5	906.8	907.0	907.2	907.3	907.5	908.7
162.5°	919.6	919.7	919.7	919.8	919.9	920.0	920.2	920.4	920.6	920.7	922.0
165°	938.9	938.7	938.6	938.3	938.2	938.1	938.1	938.1	938.1	938.1	939.4
167.5°	955.1	954.6	954.0	953.4	952.9	952.6	952.6	952.5	952.5	952.4	953.7
170°	963.7	963.1	962.6	962.1	961.5	961.2	960.9	960.7	960.6	960.4	961.6
172.5°	969.6	969.1	968.5	968.0	967.4	967.0	966.9	966.7	966.5	966.3	967.6
175°	976.9	976.3	975.8	975.3	974.7	974.2	973.9	973.5	973.1	972.7	974.0
177.5°	979.9	979.4	979.0	978.5	978.1	977.7	977.5	977.1	976.9	976.6	977.5
180°	978.5	978.5	978.5	978.5	978.5	978.5	978.5	978.5	978.5	978.5	978.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5
2.5°	1189.8	1191.7	1193.6	1194.4	1194.0	1193.6	1193.3	1192.9
5°	1180.3	1182.4	1184.6	1185.4	1184.6	1183.9	1183.2	1182.4
7.5°	1161.2	1161.8	1162.5	1162.1	1160.9	1159.7	1158.4	1157.2
10°	1142.1	1141.3	1140.6	1139.5	1138.1	1136.7	1135.2	1133.8
12.5°	1120.1	1118.8	1117.5	1115.7	1113.3	1110.9	1108.5	1106.1
15°	1079.2	1074.6	1070.1	1066.6	1064.2	1061.8	1059.4	1057.0
17.5°	1032.9	1027.4	1022.1	1017.2	1013.1	1009.0	1004.9	1000.7
20°	1000.6	994.6	988.6	982.9	977.6	972.3	967.0	961.8
22.5°	965.2	957.4	949.7	943.8	939.9	935.9	932.0	928.1
25°	906.4	896.5	886.6	879.9	876.3	872.7	869.1	865.5
27.5°	850.3	838.8	827.3	818.7	813.0	807.2	801.5	795.8
30°	810.7	798.4	786.1	776.7	770.3	763.8	757.3	750.8
32.5°	770.9	756.8	742.9	732.8	726.8	720.6	714.5	708.4
35°	708.6	693.5	678.3	668.1	662.8	657.5	652.2	646.9
37.5°	648.0	631.3	614.7	603.2	597.2	591.1	585.1	579.0
40°	607.4	590.4	573.2	561.6	555.4	549.1	542.8	536.6
42.5°	566.5	548.8	531.2	519.3	513.2	507.2	501.1	495.0
45°	506.8	489.8	472.6	461.2	455.4	449.7	443.9	438.1
47.5°	448.7	431.8	414.8	403.7	398.5	393.2	388.0	382.8
50°	411.5	394.8	378.3	367.5	362.4	357.3	352.3	347.2
52.5°	376.3	360.3	344.2	333.9	329.2	324.6	319.9	315.3
55°	322.8	308.3	293.9	284.4	279.8	275.2	270.7	266.1
57.5°	274.1	260.9	247.7	239.1	235.3	231.4	227.6	223.7
60°	240.5	228.3	216.0	208.0	204.1	200.2	196.4	192.6
62.5°	211.4	199.7	188.0	181.0	178.7	176.4	174.1	171.8
65°	171.9	163.7	155.6	151.1	150.3	149.7	149.0	148.2
67.5°	138.8	135.0	131.3	129.0	128.2	127.4	126.7	126.0
70°	120.7	118.3	115.9	114.2	113.2	112.3	111.3	110.3
72.5°	105.0	103.0	100.9	99.7	99.1	98.5	97.9	97.3
75°	83.2	81.5	79.8	78.8	78.6	78.4	78.1	77.9
77.5°	63.0	62.0	61.1	60.4	60.0	59.6	59.3	58.9
80°	50.0	49.1	48.1	47.6	47.6	47.6	47.6	47.6
82.5°	37.8	37.2	36.6	36.4	36.4	36.4	36.4	36.4
85°	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5
87.5°	12.1	11.9	11.7	11.5	11.6	11.6	11.7	11.7
90°	28.1	27.8	27.4	27.3	27.6	27.7	27.9	28.0
92.5°	26.4	26.5	26.6	26.6	26.7	26.7	26.7	26.7
95°	52.8	52.8	52.8	52.7	52.3	51.9	51.5	51.2
97.5°	88.9	88.9	88.9	88.9	88.8	88.8	88.7	88.7
100°	114.0	114.0	114.0	113.9	113.7	113.5	113.3	113.2
102.5°	141.4	141.5	141.6	141.6	141.5	141.2	141.0	140.9
105°	182.4	182.8	183.1	183.4	183.4	183.4	183.4	183.4
107.5°	226.7	226.9	227.0	226.7	225.8	224.9	224.1	223.3
110°	256.8	256.8	256.8	256.6	256.0	255.4	254.9	254.4



TEST NUMBER: P331836-930

CATALOG NUMBER: S122RDIW-S865D970U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	287.0	286.6	286.1	285.7	285.3	284.9	284.5	284.1
115°	333.2	333.0	332.9	332.5	332.0	331.4	330.8	330.3
117.5°	378.0	377.6	377.1	376.6	376.1	375.5	375.0	374.4
120°	408.0	408.0	408.0	407.6	407.1	406.6	406.0	405.4
122.5°	438.8	438.3	437.9	437.5	437.1	436.7	436.3	435.9
125°	484.5	483.9	483.4	483.0	482.8	482.7	482.4	482.2
127.5°	528.8	528.2	527.5	526.8	526.3	525.7	525.1	524.6
130°	559.1	558.8	558.4	557.8	557.1	556.4	555.6	554.9
132.5°	588.6	587.8	587.0	586.4	585.8	585.1	584.6	584.0
135°	632.2	632.0	631.8	631.4	630.9	630.3	629.8	629.2
137.5°	673.8	673.8	673.6	673.1	672.4	671.6	670.9	670.2
140°	701.9	701.9	701.9	701.6	700.8	700.1	699.4	698.6
142.5°	727.3	727.5	727.6	727.3	726.6	725.9	725.1	724.4
145°	765.9	766.1	766.2	766.0	765.2	764.5	763.8	763.0
147.5°	799.6	800.1	800.5	800.3	799.6	798.9	798.3	797.5
150°	821.1	821.7	822.2	822.2	821.7	821.1	820.5	820.0
152.5°	842.5	843.3	843.9	843.9	843.3	842.5	841.8	841.1
155°	869.8	870.7	871.6	871.7	871.2	870.7	870.1	869.5
157.5°	894.9	896.1	897.3	897.5	896.7	895.8	894.9	894.0
160°	909.7	910.9	911.9	912.2	911.4	910.7	910.0	909.2
162.5°	923.2	924.5	925.8	925.9	925.0	924.1	923.2	922.4
165°	940.7	941.9	943.2	943.4	942.5	941.6	940.7	939.7
167.5°	955.0	956.3	957.6	957.7	956.8	955.9	954.9	954.0
170°	963.0	964.3	965.6	965.6	964.5	963.4	962.3	961.2
172.5°	968.9	970.2	971.4	971.6	970.5	969.4	968.2	967.2
175°	975.3	976.6	977.9	978.0	976.9	975.8	974.7	973.6
177.5°	978.4	979.2	980.1	980.1	979.2	978.4	977.5	976.6
180°	978.5	978.5	978.5	978.5	978.5	978.5	978.5	978.5

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