

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: P332158-840

Luminaire Tested: **S123DIW-S775D755U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332158-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIW-S775D755U840-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 755 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6315.0 lumens  
Efficiency: N/A  
Efficacy: 140.3 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

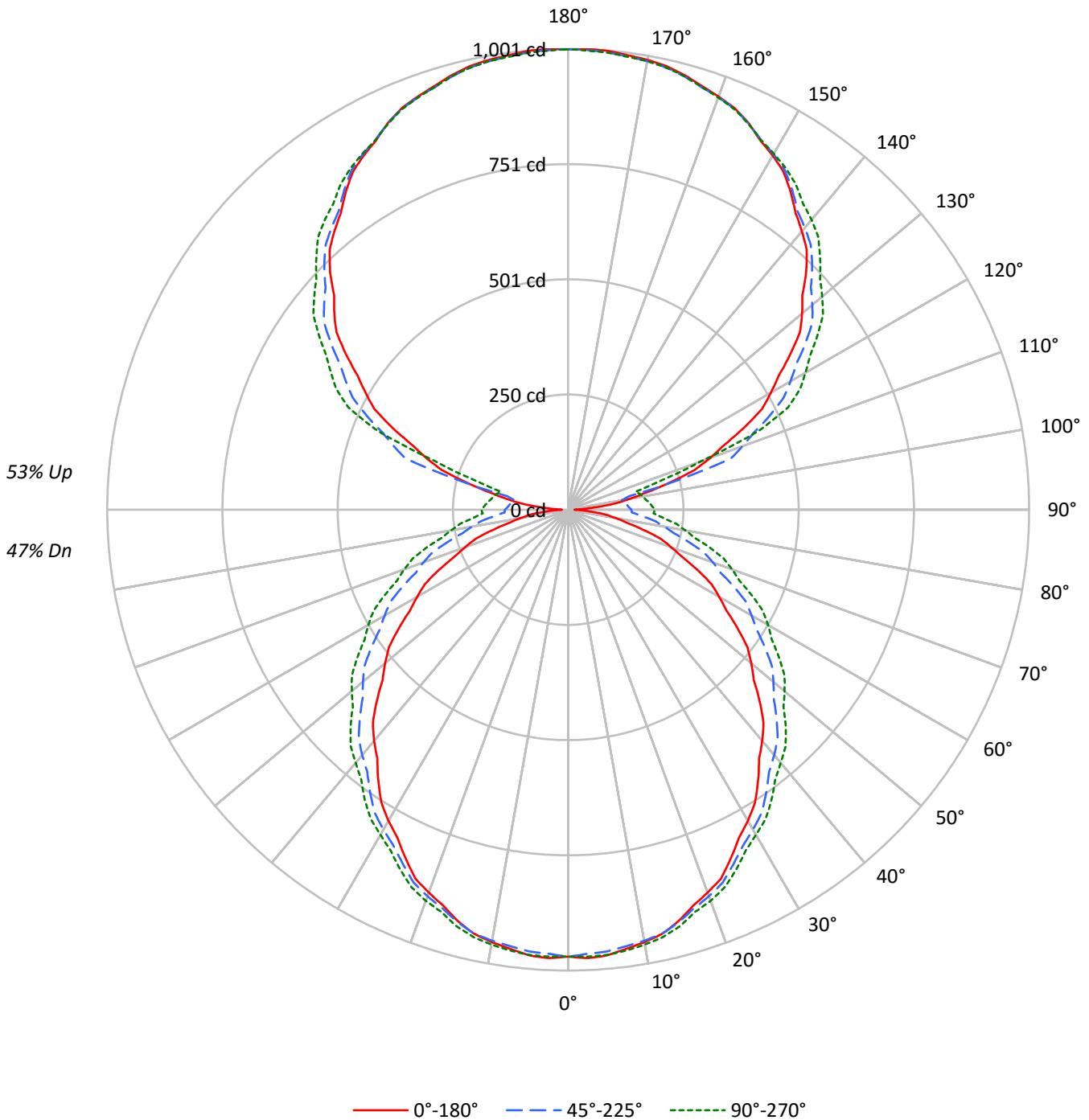
Input Watts (W): 45  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	96	91	87	83	88	84	80	77	70	68	65	58	56	54	46	45	43	38
2	87	79	73	67	80	73	67	62	61	57	53	50	47	44	40	38	36	31
3	79	69	62	56	72	64	57	52	53	48	44	44	40	37	35	32	30	26
4	72	61	53	47	66	56	49	44	47	42	37	39	35	31	31	28	26	22
5	66	54	46	40	61	50	43	37	42	36	32	35	30	27	28	25	22	19
6	61	49	40	34	56	45	38	32	38	32	28	31	27	24	25	22	19	16
7	56	44	36	30	52	41	33	28	34	29	24	28	24	21	23	20	17	14
8	52	40	32	26	48	37	30	25	31	26	22	26	22	18	21	18	15	13
9	49	36	29	23	45	34	27	22	29	23	19	24	20	16	19	16	14	12
10	45	33	26	21	42	31	24	20	26	21	17	22	18	15	18	15	12	10

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

	0°	45°	90°
0°	10449	10449	10449
5°	10481	10185	10191
10°	10387	9951	9901
15°	10253	9685	9584
20°	10061	9380	9236
25°	9826	9030	8869
30°	9583	8714	8498
35°	9312	8382	8201
40°	9054	8079	7884
45°	8767	7788	7630
50°	8484	7501	7350
55°	8172	7206	7099
60°	7867	6907	6840
65°	7553	6588	6534
70°	7082	6231	6219
75°	6487	5819	5899
80°	5804	5417	5533
85°	5167	5142	5320



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	92.0	1.5
10°-20°	262.3	4.2
20°-30°	392.3	6.2
30°-40°	468.5	7.4
40°-50°	490.2	7.8
50°-60°	460.0	7.3
60°-70°	384.2	6.1
70°-80°	274.9	4.4
80°-90°	166.7	2.6
90°-100°	139.2	2.2
100°-110°	248.9	3.9
110°-120°	466.8	7.4
120°-130°	559.0	8.9
130°-140°	579.4	9.2
140°-150°	532.4	8.4
150°-160°	427.3	6.8
160°-170°	275.7	4.4
170°-180°	95.0	1.5
0°-30°	746.7	11.8
0°-40°	1215.2	19.2
0°-60°	2165.4	34.3
0°-90°	2991.3	47.4
90°-120°	854.9	13.5
90°-150°	2525.7	40.0
90°-180°	3324.0	52.6
0°-180°	6315.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	971	971	971	971	971	
5°	972	969	963	971	971	92
15°	925	928	927	937	937	260
25°	835	846	849	862	863	385
35°	719	736	750	765	770	450
45°	588	613	640	659	668	453
55°	448	483	521	549	558	401
65°	310	351	398	428	440	306
75°	168	218	271	304	318	180
85°	52	105	161	195	207	54
90°	14	74	137	175	188	11
95°	57	70	128	164	176	65
105°	230	260	242	146	151	243
115°	421	439	483	514	527	415
125°	589	596	628	651	661	526
135°	731	735	749	769	774	563
145°	842	846	848	858	862	527
155°	927	925	926	929	925	427
165°	977	975	974	980	975	276
175°	1000	997	997	1002	996	95
180°	1000	1000	1000	1000	1000	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7
2.5°	974.9	974.3	973.8	973.2	972.7	971.6	970.2	968.7	967.1	965.6	967.1
5°	971.8	971.3	970.8	970.4	969.9	969.0	967.6	966.1	964.7	963.3	965.2
7.5°	962.2	962.3	962.4	962.5	962.6	962.0	960.6	959.3	957.9	956.5	958.9
10°	953.8	954.2	954.7	955.2	955.6	955.3	954.1	953.0	951.8	950.6	953.0
12.5°	943.6	944.3	944.9	945.6	946.2	946.2	945.4	944.6	943.8	943.0	945.1
15°	925.2	925.9	926.7	927.4	928.1	928.3	928.1	927.9	927.6	927.4	929.7
17.5°	902.0	903.4	904.8	906.2	907.6	908.3	908.2	908.1	908.0	907.9	910.0
20°	885.0	886.5	887.9	889.3	890.7	891.6	892.1	892.6	893.0	893.5	895.6
22.5°	867.3	868.7	870.1	871.5	872.9	873.9	874.6	875.3	876.0	876.6	879.3
25°	835.4	837.7	840.0	842.4	844.8	846.3	847.0	847.7	848.4	849.1	852.1
27.5°	803.2	805.9	808.6	811.2	814.0	816.0	817.5	819.0	820.5	822.0	824.7
30°	780.3	783.5	786.5	789.5	792.5	795.1	796.9	798.8	800.7	802.5	805.4
32.5°	755.0	758.4	761.8	765.3	768.7	771.6	774.1	776.6	779.0	781.4	784.5
35°	719.0	722.8	726.6	730.3	734.1	737.5	740.5	743.6	746.7	749.7	753.3
37.5°	681.0	685.2	689.4	693.7	697.9	701.9	705.7	709.4	713.2	716.9	720.9
40°	655.6	659.8	664.1	668.3	672.5	677.0	681.7	686.4	691.1	695.8	699.7
42.5°	627.6	632.9	638.0	643.2	648.3	653.4	658.2	663.2	668.0	673.0	677.3
45°	587.9	593.6	599.2	604.8	610.5	616.2	622.1	627.9	633.9	639.7	644.2
47.5°	546.2	552.7	559.1	565.4	571.8	578.3	585.1	591.8	598.5	605.2	610.3
50°	519.2	525.7	532.3	539.0	545.5	552.4	559.8	567.0	574.3	581.6	586.9
52.5°	490.4	497.4	504.3	511.3	518.3	525.7	533.8	541.8	549.9	557.8	563.5
55°	448.4	456.1	463.8	471.6	479.4	487.5	495.9	504.4	512.8	521.3	527.7
57.5°	407.3	415.4	423.4	431.5	439.7	448.3	457.6	466.9	476.1	485.3	491.7
60°	378.6	387.0	395.5	403.9	412.4	421.4	431.1	440.7	450.3	460.0	466.6
62.5°	351.4	360.1	368.8	377.4	386.1	395.5	405.7	415.9	426.1	436.3	442.8
65°	309.8	319.0	328.1	337.3	346.5	356.2	366.6	376.9	387.3	397.6	404.7
67.5°	267.5	277.2	287.0	296.7	306.4	316.6	327.1	337.6	348.1	358.7	366.4
70°	237.9	248.0	258.1	268.2	278.3	289.0	300.3	311.5	322.9	334.2	341.6
72.5°	210.9	221.0	231.1	241.2	251.3	262.2	273.8	285.5	297.1	308.7	316.5
75°	168.1	179.2	190.3	201.3	212.3	223.7	235.4	247.2	258.9	270.7	278.4
77.5°	130.9	142.1	153.2	164.3	175.4	186.9	198.8	210.7	222.5	234.3	242.5
80°	104.7	116.2	127.7	139.3	150.8	162.6	174.8	187.0	199.2	211.5	219.4
82.5°	81.8	93.5	105.2	116.9	128.7	140.7	153.1	165.5	177.9	190.4	198.3
85°	51.8	63.5	75.3	87.1	98.8	110.9	123.4	135.8	148.2	160.8	168.7
87.5°	28.3	40.3	52.3	64.3	76.4	88.7	101.1	113.4	125.8	138.3	146.4
90°	14.4	27.7	40.8	54.0	67.2	80.8	94.9	109.1	123.2	137.3	145.9
92.5°	26.8	36.7	46.6	56.5	66.4	78.1	91.5	104.9	118.4	131.8	140.6
95°	57.0	59.4	61.7	64.1	66.6	74.4	87.8	101.1	114.4	127.7	136.1
97.5°	101.5	106.7	111.9	117.1	122.4	124.6	123.7	122.8	121.9	121.0	129.4
100°	135.1	145.9	156.7	167.5	178.3	176.3	161.4	146.4	131.5	116.5	124.6
102.5°	173.5	182.7	191.8	201.0	210.1	205.9	188.3	170.9	153.3	135.8	138.4
105°	229.9	237.3	244.8	252.3	259.7	261.1	256.3	251.6	246.8	242.1	219.4
107.5°	288.4	294.7	300.8	307.1	313.4	322.4	334.4	346.3	358.3	370.2	355.1
110°	327.4	333.0	338.5	344.1	349.6	358.0	369.2	380.4	391.6	402.8	403.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	365.5	370.1	374.8	379.4	384.1	391.8	402.6	413.5	424.3	435.2	441.2
115°	420.7	424.5	428.3	432.1	436.0	442.8	452.7	462.7	472.6	482.6	489.9
117.5°	475.0	478.0	480.9	483.9	486.9	492.7	501.4	510.1	518.8	527.6	534.4
120°	508.1	510.7	513.4	516.0	518.7	524.1	532.4	540.7	549.0	557.1	563.9
122.5°	542.5	544.4	546.2	548.1	549.9	554.8	562.8	570.8	578.9	586.8	593.0
125°	588.8	590.1	591.4	592.7	594.0	598.4	605.9	613.4	620.9	628.3	633.6
127.5°	634.5	635.6	636.7	637.8	638.8	642.7	649.0	655.5	662.0	668.3	673.6
130°	663.1	664.2	665.2	666.3	667.4	670.7	676.0	681.4	686.7	692.1	697.2
132.5°	689.5	690.8	692.2	693.4	694.7	697.4	701.8	706.0	710.3	714.6	719.5
135°	731.1	731.8	732.7	733.4	734.2	736.1	739.4	742.7	745.9	749.1	753.9
137.5°	766.6	767.6	768.7	769.8	770.8	772.2	774.1	775.9	777.7	779.6	784.1
140°	789.5	790.5	791.5	792.4	793.5	794.6	795.8	797.0	798.2	799.4	803.5
142.5°	811.5	812.3	813.1	814.0	814.8	815.5	816.1	816.7	817.4	818.0	821.6
145°	842.2	843.2	844.1	845.1	846.0	846.6	846.9	847.3	847.6	847.9	850.1
147.5°	870.2	870.9	871.7	872.4	873.2	873.7	874.1	874.4	874.7	875.0	876.0
150°	888.1	888.5	889.0	889.5	890.0	890.4	890.8	891.1	891.4	891.7	892.1
152.5°	904.0	904.3	904.5	904.7	905.0	905.2	905.4	905.6	905.8	906.1	906.6
155°	926.7	926.3	926.0	925.6	925.3	925.2	925.4	925.6	925.7	925.9	926.8
157.5°	944.2	944.2	944.1	944.1	944.1	944.0	943.8	943.6	943.5	943.3	944.3
160°	954.9	954.7	954.6	954.4	954.2	954.1	953.9	953.7	953.6	953.4	954.4
162.5°	965.0	964.6	964.1	963.7	963.3	963.0	962.8	962.7	962.5	962.3	963.5
165°	977.2	976.7	976.2	975.7	975.2	974.9	974.7	974.5	974.4	974.2	975.5
167.5°	986.7	986.0	985.4	984.7	984.1	983.7	983.7	983.7	983.7	983.7	985.0
170°	992.1	991.4	990.8	990.1	989.5	989.1	989.1	989.1	989.1	989.1	990.4
172.5°	995.6	994.8	994.0	993.3	992.5	992.1	992.3	992.4	992.5	992.7	994.0
175°	1000.3	999.4	998.6	997.7	996.9	996.6	996.7	996.9	997.1	997.2	998.5
177.5°	1001.4	1000.8	1000.1	999.5	998.8	998.6	998.7	998.8	999.0	999.1	1000.1
180°	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7
2.5°	968.7	970.2	971.6	972.3	972.1	971.9	971.7	971.6
5°	967.0	969.0	970.8	971.6	971.4	971.2	971.0	970.7
7.5°	961.2	963.6	965.9	966.9	966.6	966.4	966.1	965.8
10°	955.3	957.7	960.0	961.0	960.5	960.0	959.6	959.1
12.5°	947.4	949.5	951.6	952.5	952.0	951.6	951.1	950.6
15°	932.0	934.4	936.8	937.8	937.6	937.4	937.1	936.9
17.5°	912.1	914.2	916.4	917.3	917.0	916.6	916.3	915.9
20°	897.8	899.9	902.0	903.1	903.4	903.6	903.8	904.1
22.5°	881.9	884.6	887.3	888.6	888.5	888.3	888.2	888.0
25°	855.3	858.3	861.3	862.8	862.8	862.8	862.8	862.8
27.5°	827.3	829.9	832.5	833.9	834.1	834.4	834.6	834.8
30°	808.2	811.0	813.9	815.3	815.3	815.3	815.3	815.3
32.5°	787.4	790.4	793.5	795.3	795.8	796.4	796.9	797.5
35°	756.8	760.3	763.8	766.1	767.0	767.9	768.8	769.8
37.5°	724.9	728.9	732.9	735.3	736.0	736.8	737.5	738.3
40°	703.8	707.7	711.8	714.2	715.2	716.1	717.0	718.0
42.5°	681.7	686.0	690.4	693.3	694.6	695.9	697.2	698.5
45°	648.6	653.1	657.6	660.8	662.7	664.5	666.4	668.3
47.5°	615.3	620.4	625.4	628.6	630.1	631.6	633.0	634.4
50°	592.4	597.7	603.2	606.7	608.3	610.0	611.7	613.3
52.5°	569.1	574.7	580.3	584.1	586.1	588.1	590.2	592.2
55°	534.0	540.4	546.6	550.8	552.7	554.5	556.4	558.4
57.5°	498.2	504.5	510.9	515.2	517.5	519.7	521.8	524.0
60°	473.1	479.7	486.3	490.9	493.4	496.0	498.7	501.2
62.5°	449.5	456.1	462.6	467.1	469.5	471.9	474.3	476.7
65°	411.7	418.7	425.8	430.5	432.8	435.2	437.6	439.9
67.5°	374.1	381.8	389.5	394.4	396.3	398.3	400.3	402.2
70°	349.2	356.7	364.3	369.1	371.5	373.9	376.2	378.6
72.5°	324.2	331.8	339.6	344.7	347.0	349.3	351.6	354.1
75°	286.2	294.0	301.7	307.0	309.8	312.7	315.5	318.3
77.5°	250.6	258.8	267.0	272.2	274.4	276.5	278.7	280.8
80°	227.4	235.4	243.5	248.6	251.0	253.3	255.7	258.0
82.5°	206.3	214.3	222.3	227.4	229.8	232.2	234.5	236.8
85°	176.7	184.7	192.7	197.8	200.2	202.6	204.9	207.2
87.5°	154.5	162.7	170.8	176.0	178.4	180.9	183.3	185.7
90°	154.6	163.3	171.9	177.6	180.3	183.0	185.6	188.3
92.5°	149.5	158.3	167.1	172.8	175.1	177.5	179.9	182.2
95°	144.6	153.0	161.5	166.8	169.3	171.6	173.9	176.3
97.5°	137.6	145.9	154.3	159.8	162.2	164.7	167.2	169.8
100°	132.8	140.9	149.1	154.4	156.9	159.5	161.9	164.4
102.5°	140.9	143.4	145.9	148.6	151.2	153.8	156.4	159.2
105°	196.7	174.1	151.5	141.4	143.8	146.2	148.7	151.2
107.5°	339.9	324.8	309.6	292.1	272.2	252.2	232.2	212.3
110°	404.1	404.8	405.5	395.0	373.1	351.4	329.7	308.0





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CATALOG NUMBER: S123DIW-S775D755U840-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	447.3	453.2	459.3	460.8	457.9	454.9	452.1	449.2
115°	497.2	504.4	511.8	516.6	519.2	521.8	524.3	526.8
117.5°	541.3	548.3	555.1	559.6	561.6	563.5	565.5	567.4
120°	570.6	577.3	584.1	588.2	589.9	591.6	593.2	594.8
122.5°	599.2	605.2	611.4	615.3	617.1	618.9	620.7	622.5
125°	638.8	644.1	649.3	653.0	655.0	656.9	658.9	661.0
127.5°	678.7	683.9	689.1	692.3	693.6	694.9	696.1	697.4
130°	702.4	707.4	712.6	715.7	716.8	717.8	718.9	720.0
132.5°	724.5	729.4	734.4	737.4	738.5	739.6	740.7	741.9
135°	758.6	763.3	768.0	770.7	771.4	772.0	772.7	773.5
137.5°	788.6	793.0	797.6	800.2	801.1	801.9	802.8	803.7
140°	807.7	811.9	816.1	818.6	819.5	820.3	821.1	822.0
142.5°	825.4	829.0	832.7	834.9	835.6	836.3	837.0	837.7
145°	852.3	854.5	856.8	858.3	859.3	860.2	861.1	862.1
147.5°	876.9	877.8	878.7	879.2	879.3	879.3	879.4	879.5
150°	892.4	892.7	893.0	893.2	893.2	893.1	893.1	893.1
152.5°	907.2	907.8	908.4	908.4	907.7	907.1	906.4	905.6
155°	927.6	928.4	929.3	929.2	928.2	927.2	926.1	925.1
157.5°	945.3	946.2	947.3	947.2	945.8	944.5	943.3	942.0
160°	955.4	956.4	957.4	957.4	956.1	955.0	953.8	952.7
162.5°	964.6	965.7	966.8	966.8	965.8	964.8	963.8	962.8
165°	976.8	978.2	979.5	979.6	978.5	977.2	976.1	974.9
167.5°	986.3	987.7	989.1	989.1	987.7	986.3	985.0	983.7
170°	991.7	993.1	994.4	994.4	993.1	991.7	990.4	989.1
172.5°	995.3	996.6	997.9	997.8	996.4	995.0	993.5	992.1
175°	999.6	1000.8	1001.9	1001.8	1000.5	999.2	997.8	996.5
177.5°	1001.2	1002.2	1003.3	1003.1	1001.8	1000.5	999.2	997.8
180°	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3

(END OF REPORT)