

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: P332159-840

Luminaire Tested: **S123DIW-S775D755U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332159-840  
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-S775D755U840-4F0-1E-UDD-D1  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 775 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: 5908.5 lumens  
Efficiency: N/A  
Efficacy: 131.3 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

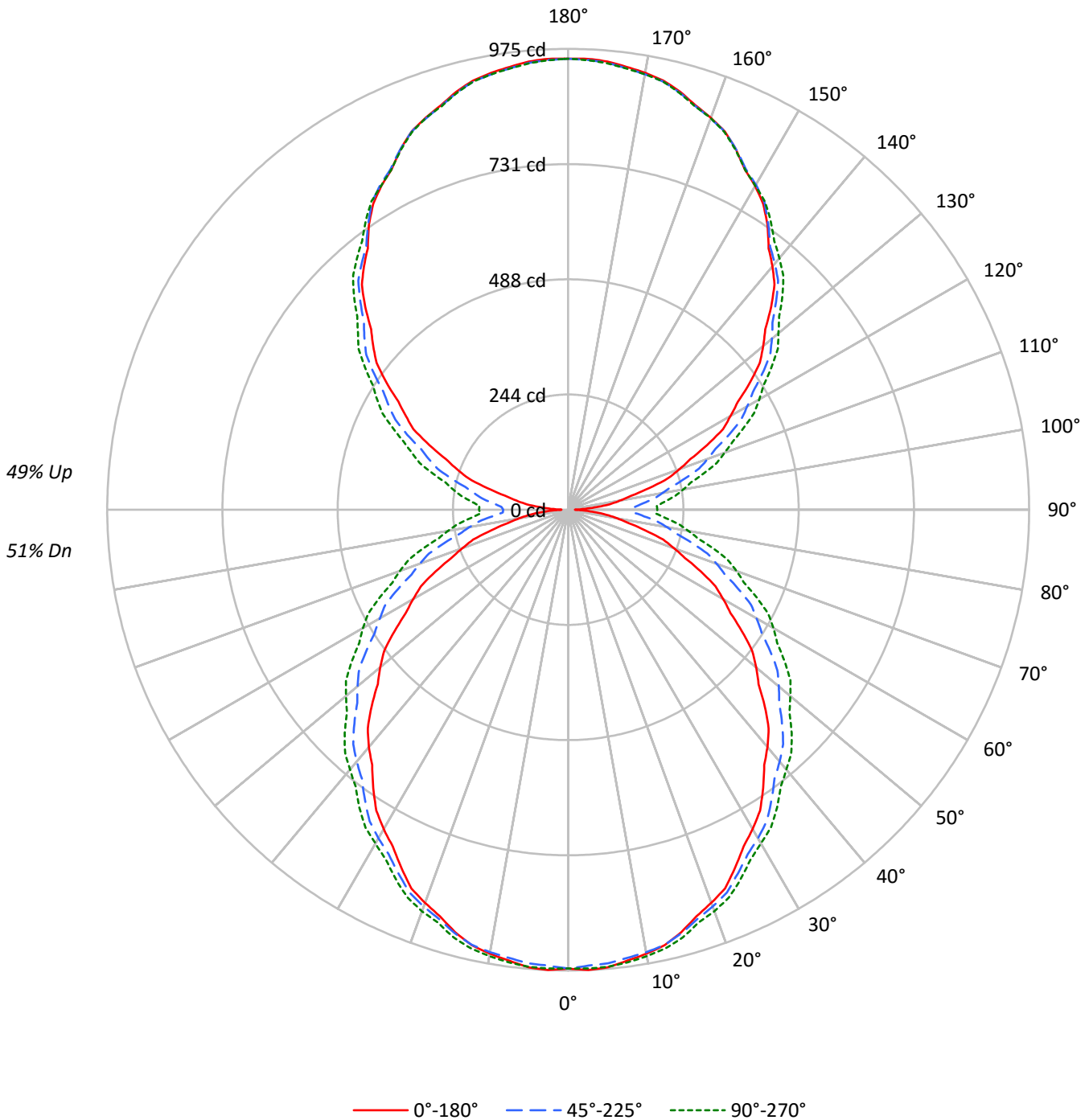
Input Watts (W): 45  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	97	92	88	84	89	85	81	78	72	69	66	60	58	56	48	47	46	40
2	88	80	73	68	81	74	68	63	62	58	54	52	49	46	42	40	38	33
3	80	70	62	56	73	65	58	52	55	49	45	45	42	38	37	34	32	27
4	73	62	53	47	67	57	50	44	48	43	38	40	36	32	33	30	27	23
5	67	55	46	40	61	51	43	38	43	37	33	36	31	28	29	26	23	20
6	61	49	41	35	56	45	38	32	39	33	28	32	28	24	27	23	20	17
7	57	44	36	30	52	41	34	28	35	29	25	29	25	21	24	21	18	15
8	53	40	32	27	48	37	30	25	32	26	22	27	22	19	22	19	16	14
9	49	36	29	24	45	34	27	22	29	24	20	25	20	17	21	17	15	12
10	46	33	26	21	42	31	24	20	27	21	18	23	18	15	19	16	13	11

**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	1.6
10°-20°	262.3	4.4
20°-30°	392.3	6.6
30°-40°	468.5	7.9
40°-50°	490.2	8.3
50°-60°	460.0	7.8
60°-70°	384.2	6.5
70°-80°	274.9	4.7
80°-90°	166.8	2.8
90°-100°	165.0	2.8
100°-110°	261.6	4.4
110°-120°	366.9	6.2
120°-130°	445.1	7.5
130°-140°	480.8	8.1
140°-150°	462.6	7.8
150°-160°	387.2	6.6
160°-170°	257.7	4.4
170°-180°	90.2	1.5
0°-30°	746.7	12.6
0°-40°	1215.2	20.6
0°-60°	2165.4	36.6
0°-90°	2991.3	50.6
90°-120°	793.6	13.4
90°-150°	2182.1	36.9
90°-180°	2917.0	49.4
0°-180°	5908.5	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	12
95°	56	103	160	195	206	59
105°	177	205	256	285	297	189
115°	324	340	375	400	409	321
125°	469	473	501	519	524	419
135°	607	611	621	637	641	468
145°	735	735	738	745	746	459
155°	840	840	841	844	839	387
165°	915	913	913	917	912	258
175°	952	949	949	953	948	90
180°	954	954	954	954	954	



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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	64.4	76.4	88.7	101.1	113.5	125.9	138.4	146.4
90°	14.5	27.7	40.9	54.0	67.3	80.9	95.0	109.2	123.3	137.4	146.1
92.5°	31.0	42.5	54.0	65.6	77.2	89.4	102.4	115.4	128.5	141.5	149.9
95°	55.8	66.1	76.5	86.8	97.1	108.8	121.6	134.4	147.3	160.2	168.1
97.5°	88.9	98.1	107.1	116.3	125.4	136.0	147.9	160.0	171.9	183.9	191.7
100°	111.5	120.0	128.5	137.0	145.5	155.6	167.2	178.8	190.6	202.2	209.4
102.5°	137.6	144.9	152.3	159.7	167.0	176.6	188.3	200.1	211.8	223.5	230.7
105°	177.1	183.1	189.0	195.0	201.0	209.7	221.4	233.0	244.6	256.2	262.8
107.5°	222.0	227.0	232.0	237.0	242.0	249.5	259.7	269.9	280.1	290.3	297.2
110°	249.9	254.5	259.0	263.7	268.2	275.4	285.1	294.8	304.6	314.3	321.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	279.9	283.6	287.3	290.9	294.7	301.0	310.1	319.2	328.3	337.4	344.1
115°	323.9	327.2	330.5	333.8	337.1	342.8	350.9	359.1	367.2	375.4	381.1
117.5°	368.9	371.0	373.0	375.2	377.2	382.0	389.5	397.0	404.6	412.0	417.6
120°	396.3	398.4	400.6	402.7	405.0	409.5	416.4	423.3	430.3	437.2	442.4
122.5°	425.7	427.0	428.3	429.7	431.0	435.2	442.1	449.1	456.0	462.9	467.7
125°	469.4	469.9	470.4	470.9	471.4	474.9	481.4	487.9	494.3	500.8	505.0
127.5°	510.8	511.6	512.4	513.3	514.1	517.2	522.4	527.7	533.0	538.3	542.0
130°	538.4	539.5	540.6	541.7	542.7	545.4	549.6	553.8	558.0	562.2	566.0
132.5°	565.1	566.4	567.6	569.0	570.3	572.6	575.9	579.4	582.8	586.1	589.7
135°	607.0	607.7	608.5	609.4	610.1	611.7	614.1	616.5	618.9	621.4	624.9
137.5°	645.8	646.4	647.0	647.7	648.3	649.6	651.6	653.4	655.3	657.2	660.1
140°	672.0	672.8	673.6	674.4	675.3	676.1	677.0	677.8	678.7	679.5	683.0
142.5°	696.5	697.1	697.8	698.4	699.1	699.6	700.0	700.5	700.9	701.4	704.4
145°	734.9	735.0	735.1	735.2	735.3	735.6	736.1	736.6	737.1	737.6	739.3
147.5°	767.4	768.0	768.6	769.2	769.8	770.3	770.8	771.2	771.7	772.2	772.7
150°	790.8	791.1	791.4	791.8	792.1	792.4	792.7	793.1	793.5	793.8	793.8
152.5°	810.0	810.4	810.9	811.4	811.8	812.1	812.3	812.5	812.7	812.9	813.2
155°	840.3	840.3	840.3	840.3	840.3	840.3	840.5	840.7	840.8	841.0	841.7
157.5°	866.1	865.9	865.7	865.5	865.3	865.3	865.4	865.5	865.7	865.8	866.5
160°	882.2	881.9	881.6	881.2	880.9	880.7	880.7	880.7	880.7	880.7	881.6
162.5°	896.7	896.2	895.6	895.2	894.7	894.6	894.7	894.8	895.0	895.1	896.0
165°	915.2	914.7	914.2	913.7	913.2	912.9	912.9	912.9	912.9	912.9	913.9
167.5°	930.1	929.4	928.8	928.1	927.4	927.2	927.3	927.4	927.6	927.7	928.7
170°	938.5	937.8	937.2	936.4	935.7	935.4	935.4	935.4	935.4	935.4	936.6
172.5°	945.0	944.4	943.7	943.0	942.4	942.0	942.0	942.0	942.0	942.0	943.1
175°	951.9	951.3	950.6	950.0	949.3	949.0	949.0	949.0	949.0	949.0	950.0
177.5°	954.8	954.2	953.7	953.2	952.7	952.4	952.4	952.4	952.4	952.4	953.2
180°	954.2	954.2	954.2	954.2	954.2	954.2	954.2	954.2	954.2	954.2	954.2



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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	176.1	178.4	180.9	183.3	185.7
90°	154.8	163.4	172.1	177.7	180.5	183.1	185.8	188.5
92.5°	158.1	166.5	174.8	180.0	182.0	183.9	185.9	187.8
95°	176.0	184.0	192.0	197.1	199.4	201.8	204.2	206.5
97.5°	199.4	207.2	214.9	219.9	222.3	224.5	226.8	229.1
100°	216.8	224.1	231.5	236.4	239.1	241.8	244.5	247.2
102.5°	237.7	244.9	252.0	256.7	259.0	261.3	263.6	265.8
105°	269.3	275.9	282.6	287.0	289.5	292.0	294.4	296.8
107.5°	304.0	310.8	317.6	322.0	323.9	325.8	327.6	329.5
110°	327.8	334.6	341.3	345.6	347.1	348.6	350.2	351.7





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CATALOG NUMBER: S123DIW-S775D755U840-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	350.8	357.6	364.3	368.6	370.6	372.6	374.7	376.7
115°	387.0	392.7	398.6	402.3	404.0	405.8	407.5	409.2
117.5°	423.1	428.7	434.2	437.8	439.1	440.5	441.8	443.2
120°	447.7	452.9	458.2	461.4	462.7	464.0	465.3	466.7
122.5°	472.5	477.3	482.1	485.0	486.3	487.4	488.6	489.8
125°	509.4	513.6	517.9	520.5	521.5	522.5	523.4	524.4
127.5°	545.7	549.4	553.1	555.4	556.2	557.0	557.8	558.8
130°	569.8	573.6	577.4	579.5	579.7	579.9	580.2	580.4
132.5°	593.1	596.6	600.1	602.2	602.9	603.5	604.2	604.9
135°	628.4	632.1	635.6	637.8	638.6	639.4	640.4	641.2
137.5°	663.2	666.2	669.2	671.1	671.6	672.1	672.7	673.2
140°	686.3	689.6	693.0	694.7	694.7	694.7	694.7	694.8
142.5°	707.3	710.3	713.3	715.0	715.2	715.5	715.8	716.1
145°	741.0	742.8	744.5	745.4	745.7	746.0	746.2	746.5
147.5°	773.4	773.9	774.5	774.7	774.5	774.4	774.2	774.1
150°	793.8	793.8	793.8	793.6	792.9	792.4	791.9	791.4
152.5°	813.5	813.7	814.1	813.7	813.0	812.2	811.4	810.7
155°	842.3	843.0	843.6	843.4	842.2	841.1	839.9	838.8
157.5°	867.2	867.9	868.6	868.4	867.5	866.6	865.7	864.6
160°	882.4	883.2	884.0	884.1	883.5	882.8	882.1	881.5
162.5°	896.8	897.7	898.5	898.4	897.3	896.3	895.1	894.0
165°	914.9	915.9	917.0	916.9	915.7	914.5	913.4	912.2
167.5°	929.7	930.8	931.8	931.8	930.8	929.7	928.7	927.7
170°	937.8	939.0	940.1	940.1	939.0	937.8	936.6	935.4
172.5°	944.1	945.1	946.1	946.1	944.9	943.8	942.6	941.5
175°	951.0	951.9	952.9	952.9	951.7	950.5	949.4	948.2
177.5°	954.0	954.8	955.6	955.5	954.6	953.6	952.7	951.8
180°	954.2	954.2	954.2	954.2	954.2	954.2	954.2	954.2

(END OF REPORT)