

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: P331539-927

Luminaire Tested: **S122DIW-S675D970U927-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331539-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S675D970U927-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 970 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5197.1 lumens
Efficiency: N/A
Efficacy: 98.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

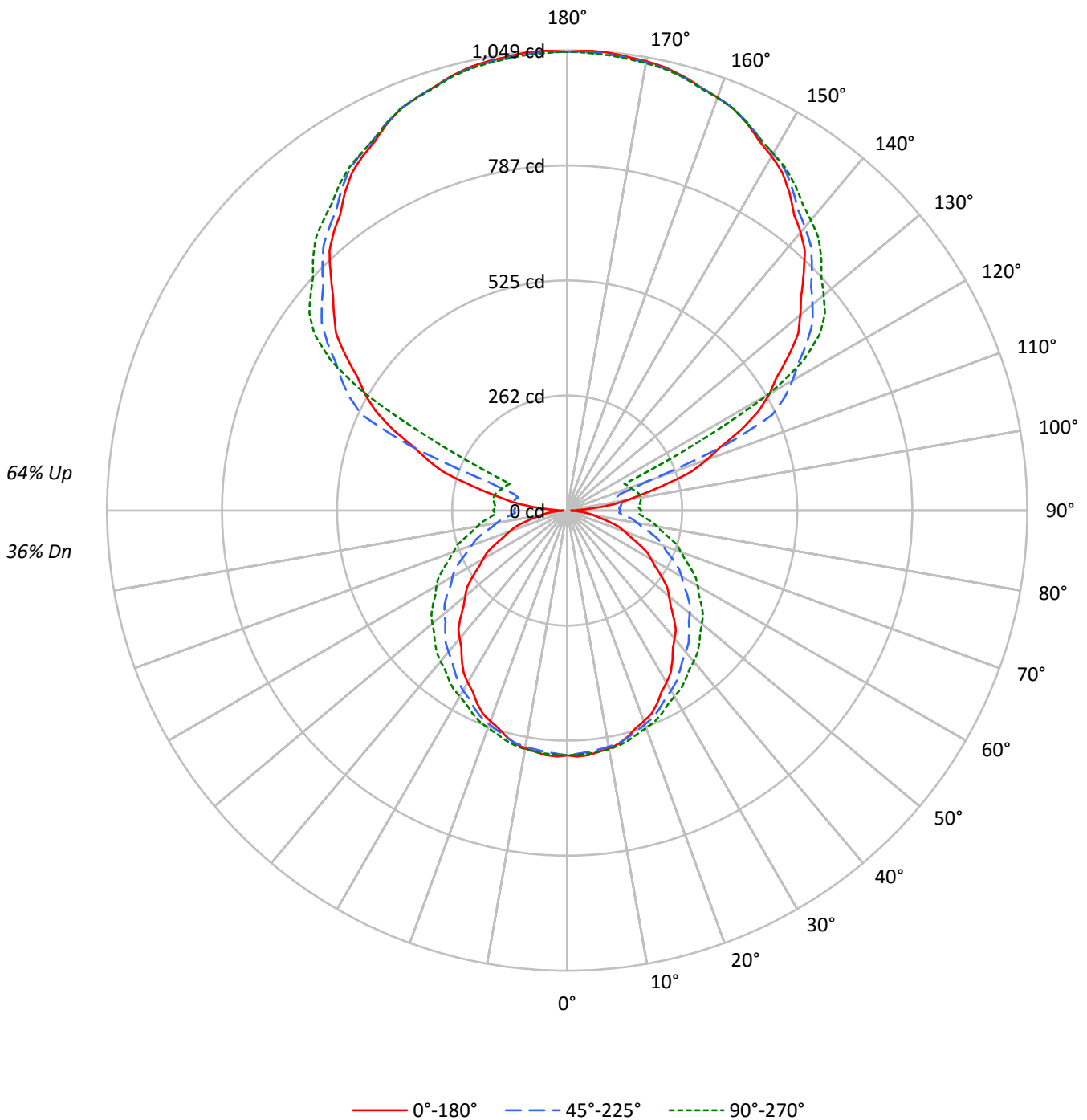
Input Watts (W): 52.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P331539-927

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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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	36
1	94	89	85	81	84	80	77	74	65	62	60	50	48	47	37	36	35	28
2	85	77	71	65	76	70	64	59	56	52	49	43	41	38	32	30	28	23
3	77	67	60	54	69	61	54	49	49	44	40	38	35	32	28	26	24	19
4	70	59	51	45	63	54	47	41	43	38	34	34	30	27	25	22	20	16
5	64	53	44	38	58	48	40	35	39	33	29	30	26	23	22	19	17	14
6	59	47	39	33	53	43	35	30	35	29	25	27	23	20	20	17	15	12
7	55	42	34	29	49	38	31	26	31	26	22	24	20	18	18	15	13	10
8	50	38	30	25	45	35	28	23	28	23	19	22	18	15	17	14	12	9
9	47	35	27	22	42	32	25	20	26	21	17	20	17	14	15	13	11	8
10	44	32	24	20	39	29	23	18	24	19	15	19	15	12	14	11	10	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9009	9009	9009
5°	9053	8672	8638
10°	8996	8417	8321
15°	8873	8146	7988
20°	8716	7854	7665
25°	8561	7573	7372
30°	8343	7286	7079
35°	8122	7007	6870
40°	7890	6771	6665
45°	7670	6558	6488
50°	7431	6366	6313
55°	7184	6161	6135
60°	6882	5948	5948
65°	6564	5697	5724
70°	6211	5427	5485
75°	5759	5163	5263
80°	5048	4895	5040
85°	4369	4658	4864



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.9	1.0
10°-20°	151.6	2.9
20°-30°	229.8	4.4
30°-40°	279.8	5.4
40°-50°	301.1	5.8
50°-60°	292.4	5.6
60°-70°	255.3	4.9
70°-80°	196.5	3.8
80°-90°	134.5	2.6
90°-100°	125.8	2.4
100°-110°	194.3	3.7
110°-120°	385.9	7.4
120°-130°	589.1	11.3
130°-140°	610.8	11.8
140°-150°	559.9	10.8
150°-160°	448.7	8.6
160°-170°	289.2	5.6
170°-180°	99.5	1.9
0°-30°	434.3	8.4
0°-40°	714.1	13.7
0°-60°	1307.5	25.2
0°-90°	1893.9	36.4
90°-120°	706.0	13.6
90°-150°	2465.8	47.4
90°-180°	3303.0	63.6
0°-180°	5197.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	558	558	558	558	558	
5°	560	557	552	557	556	53
15°	534	535	535	542	542	150
25°	485	491	498	507	510	223
35°	418	432	447	464	471	261
45°	343	365	393	417	426	265
55°	263	293	334	362	374	235
65°	180	220	267	299	310	178
75°	100	145	196	230	242	105
85°	29	79	131	164	176	31
90°	9	64	122	157	169	8
95°	56	71	123	156	166	65
105°	234	269	116	151	164	251
115°	438	462	516	205	144	431
125°	617	629	667	693	704	550
135°	762	775	789	813	819	589
145°	883	883	896	905	906	553
155°	973	967	975	979	973	448
165°	1025	1021	1023	1027	1023	289
175°	1048	1043	1045	1049	1042	100
180°	1046	1046	1046	1046	1046	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	558.0	558.0	558.0	558.0	558.0	558.0	558.0	558.0	558.0	558.0	558.0
2.5°	561.3	560.8	560.4	559.9	559.5	558.8	557.8	556.7	555.8	554.8	555.5
5°	559.6	559.0	558.6	558.0	557.5	556.7	555.6	554.5	553.4	552.3	553.4
7.5°	554.6	554.2	553.9	553.5	553.2	552.5	551.8	550.9	550.1	549.3	550.6
10°	550.7	550.3	550.0	549.6	549.3	548.8	548.3	547.8	547.2	546.7	548.1
12.5°	544.2	544.3	544.4	544.5	544.5	544.4	544.0	543.6	543.2	542.8	544.2
15°	533.8	534.1	534.5	534.8	535.2	535.4	535.4	535.4	535.4	535.4	536.9
17.5°	520.1	520.9	521.7	522.4	523.2	523.9	524.4	525.0	525.5	526.2	527.8
20°	511.1	512.0	512.9	513.8	514.7	515.5	516.2	517.0	517.7	518.4	520.4
22.5°	501.4	502.4	503.5	504.5	505.6	506.6	507.6	508.6	509.6	510.6	512.6
25°	485.2	486.5	487.7	489.0	490.3	491.7	493.3	495.0	496.5	498.1	500.3
27.5°	465.8	467.9	469.9	472.0	474.0	476.0	477.9	479.8	481.7	483.6	486.3
30°	452.9	455.2	457.6	459.9	462.2	464.5	466.9	469.2	471.6	473.9	476.7
32.5°	438.6	441.2	443.9	446.5	449.2	451.9	454.6	457.3	460.1	462.9	466.2
35°	418.1	421.1	424.2	427.2	430.3	433.6	437.0	440.4	443.8	447.2	451.1
37.5°	395.8	399.3	402.8	406.3	409.9	413.8	418.3	422.7	427.1	431.5	435.9
40°	380.9	384.8	388.8	392.8	396.7	401.1	406.0	410.8	415.7	420.5	425.2
42.5°	366.7	370.6	374.5	378.5	382.5	387.2	392.8	398.4	403.9	409.6	414.6
45°	342.9	347.8	352.6	357.4	362.3	367.9	374.1	380.5	386.7	393.0	398.6
47.5°	319.4	324.7	330.0	335.3	340.6	346.9	354.3	361.6	369.0	376.4	382.2
50°	303.2	308.9	314.4	320.0	325.5	332.4	340.5	348.6	356.6	364.7	370.8
52.5°	287.7	293.6	299.4	305.3	311.2	318.4	326.9	335.4	343.9	352.4	358.7
55°	262.8	269.3	275.8	282.3	288.7	296.6	305.9	315.3	324.6	334.0	340.5
57.5°	238.2	245.6	252.9	260.2	267.4	275.8	285.3	294.9	304.4	313.9	320.9
60°	220.8	228.5	236.2	244.0	251.7	260.7	270.9	281.1	291.4	301.7	308.5
62.5°	205.3	213.3	221.3	229.3	237.3	246.4	256.7	266.9	277.2	287.4	294.7
65°	179.5	188.3	197.2	206.0	214.8	224.4	235.0	245.7	256.3	266.9	274.3
67.5°	155.9	165.1	174.4	183.5	192.7	202.7	213.6	224.4	235.3	246.1	253.6
70°	139.1	148.5	157.8	167.2	176.5	186.7	197.9	209.0	220.1	231.3	239.0
72.5°	123.6	133.2	142.8	152.5	162.1	172.5	183.9	195.1	206.4	217.7	225.3
75°	99.5	109.6	119.6	129.7	139.7	150.5	162.0	173.5	185.0	196.5	204.2
77.5°	76.2	86.7	97.3	107.7	118.3	129.4	141.1	152.8	164.5	176.1	183.9
80°	60.7	71.6	82.5	93.6	104.5	115.8	127.5	139.2	150.8	162.6	170.1
82.5°	47.7	58.5	69.3	80.2	91.0	102.3	114.2	126.0	137.8	149.6	157.2
85°	29.2	40.2	51.4	62.5	73.7	85.0	96.5	108.0	119.5	131.0	138.6
87.5°	16.0	27.1	38.2	49.3	60.4	71.8	83.5	95.3	107.0	118.8	126.4
90°	8.9	21.2	33.4	45.6	57.9	70.5	83.3	96.2	109.0	121.9	129.9
92.5°	22.7	32.2	41.8	51.3	60.8	71.5	83.3	95.0	106.7	118.5	126.0
95°	55.7	58.5	61.5	64.3	67.3	74.7	86.7	98.6	110.6	122.6	130.2
97.5°	103.3	95.1	87.1	78.9	70.7	73.3	86.3	99.4	112.5	125.6	132.8
100°	139.7	123.3	106.9	90.5	74.1	72.3	85.2	98.2	111.1	124.1	132.0
102.5°	179.0	180.1	181.3	182.5	183.7	177.3	163.1	149.0	134.8	120.7	129.0
105°	234.2	244.4	254.7	264.9	275.2	262.1	225.5	188.9	152.3	115.7	123.9
107.5°	298.0	306.3	314.5	322.7	331.0	312.0	265.9	219.8	173.6	127.5	131.7
110°	338.6	345.7	352.8	360.0	367.1	350.7	310.9	271.1	231.3	191.5	180.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	377.3	383.5	389.6	395.8	402.0	403.1	399.5	395.9	392.3	388.6	333.0
115°	438.5	443.3	448.1	453.0	457.8	466.4	478.7	491.0	503.3	515.6	443.1
117.5°	492.3	496.9	501.3	505.8	510.3	517.7	528.1	538.4	548.8	559.2	545.7
120°	532.3	535.5	538.8	542.0	545.3	552.0	562.2	572.4	582.7	592.9	599.9
122.5°	566.2	569.2	572.1	575.0	578.0	584.5	594.5	604.6	614.7	624.7	630.8
125°	617.0	619.2	621.4	623.6	625.7	631.4	640.3	649.2	658.1	667.1	673.1
127.5°	663.8	666.1	668.3	670.5	672.8	677.4	684.4	691.5	698.5	705.5	711.7
130°	693.5	696.0	698.5	701.0	703.5	707.6	713.2	718.8	724.5	730.1	736.3
132.5°	723.7	725.9	727.9	730.1	732.2	735.6	740.4	745.1	749.9	754.6	760.4
135°	762.3	765.0	767.7	770.4	773.1	776.1	779.3	782.7	786.0	789.3	794.8
137.5°	802.1	804.0	805.8	807.6	809.5	811.7	814.2	816.7	819.2	821.7	826.6
140°	828.1	829.3	830.5	831.6	832.8	834.5	836.7	838.9	841.1	843.4	847.7
142.5°	849.9	851.0	852.0	853.0	854.1	855.7	857.9	860.1	862.3	864.4	868.2
145°	883.4	883.2	883.0	882.9	882.7	884.1	886.9	889.8	892.6	895.5	897.7
147.5°	913.2	912.5	911.9	911.2	910.6	911.7	914.6	917.3	920.2	923.1	924.1
150°	932.6	931.4	930.2	929.1	927.9	928.6	931.3	934.0	936.7	939.4	940.4
152.5°	949.0	947.6	946.3	945.0	943.6	944.3	946.8	949.4	952.0	954.5	955.5
155°	972.7	971.1	969.6	968.1	966.6	966.9	968.9	970.9	973.0	974.9	976.0
157.5°	991.3	990.1	988.7	987.5	986.2	986.3	987.7	989.1	990.5	991.9	993.1
160°	1002.2	1001.2	1000.2	999.2	998.1	998.1	999.2	1000.2	1001.2	1002.2	1003.2
162.5°	1011.9	1010.9	1009.9	1008.8	1007.9	1007.8	1008.7	1009.6	1010.4	1011.3	1012.4
165°	1024.9	1023.9	1022.9	1021.9	1020.9	1020.6	1021.1	1021.6	1022.2	1022.6	1023.8
167.5°	1034.6	1033.6	1032.6	1031.6	1030.5	1030.3	1030.8	1031.3	1031.7	1032.2	1033.3
170°	1040.1	1039.0	1038.1	1037.0	1036.0	1035.7	1036.0	1036.3	1036.7	1037.0	1038.2
172.5°	1043.7	1042.7	1041.6	1040.7	1039.7	1039.3	1039.7	1040.0	1040.3	1040.7	1041.9
175°	1048.4	1047.2	1046.0	1044.9	1043.7	1043.2	1043.6	1043.9	1044.3	1044.6	1045.8
177.5°	1049.2	1048.2	1047.3	1046.3	1045.4	1045.0	1045.1	1045.2	1045.4	1045.5	1046.5
180°	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	558.0	558.0	558.0	558.0	558.0	558.0	558.0	558.0
2.5°	556.2	556.9	557.6	557.9	557.5	557.3	557.0	556.7
5°	554.5	555.6	556.7	557.1	556.9	556.7	556.6	556.3
7.5°	551.8	553.2	554.4	555.0	554.8	554.6	554.4	554.3
10°	549.5	551.0	552.5	553.0	552.9	552.7	552.5	552.3
12.5°	545.7	547.1	548.6	549.1	549.0	548.8	548.7	548.4
15°	538.6	540.2	541.9	542.6	542.4	542.2	542.0	541.9
17.5°	529.5	531.2	532.9	533.8	533.8	533.8	533.8	533.8
20°	522.4	524.3	526.2	527.3	527.3	527.3	527.3	527.3
22.5°	514.6	516.6	518.5	519.7	519.9	520.2	520.5	520.8
25°	502.5	504.6	506.8	508.1	508.7	509.2	509.8	510.3
27.5°	489.1	491.8	494.6	496.1	496.5	496.9	497.3	497.6
30°	479.7	482.5	485.4	487.1	487.7	488.2	488.7	489.3
32.5°	469.5	472.9	476.1	478.2	479.3	480.2	481.2	482.1
35°	455.1	459.1	463.0	465.6	466.9	468.2	469.4	470.6
37.5°	440.3	444.7	449.1	451.9	453.3	454.6	455.9	457.2
40°	429.8	434.5	439.2	442.4	443.9	445.6	447.2	448.9
42.5°	419.7	424.8	429.9	433.3	434.9	436.6	438.2	439.7
45°	404.2	409.7	415.3	419.0	420.8	422.6	424.4	426.2
47.5°	388.0	393.9	399.7	403.5	405.5	407.5	409.5	411.5
50°	376.9	383.0	389.2	393.2	395.2	397.2	399.1	401.1
52.5°	365.0	371.2	377.5	381.7	383.7	385.9	388.0	390.1
55°	346.9	353.4	359.9	364.2	366.6	368.9	371.3	373.6
57.5°	327.9	334.9	341.8	346.5	348.9	351.3	353.6	356.0
60°	315.3	322.1	329.0	333.7	336.1	338.7	341.2	343.7
62.5°	301.9	309.2	316.5	321.3	323.6	326.0	328.4	330.7
65°	281.6	289.0	296.4	301.2	303.6	305.9	308.2	310.5
67.5°	261.0	268.5	275.9	280.9	283.3	285.7	288.2	290.7
70°	246.8	254.4	262.2	267.1	269.3	271.5	273.6	275.8
72.5°	232.9	240.4	248.0	253.1	255.7	258.3	260.9	263.5
75°	212.0	219.7	227.4	232.4	234.8	237.1	239.5	241.8
77.5°	191.5	199.2	206.9	212.0	214.5	217.1	219.5	222.0
80°	177.6	185.2	192.7	197.8	200.3	202.8	205.3	207.9
82.5°	164.7	172.2	179.8	184.7	187.1	189.5	191.9	194.2
85°	146.1	153.7	161.2	166.2	168.7	171.3	173.8	176.3
87.5°	133.8	141.3	148.9	153.8	156.1	158.5	160.9	163.3
90°	137.9	146.0	154.0	159.2	161.8	164.2	166.8	169.2
92.5°	133.5	140.9	148.4	153.4	155.7	158.0	160.4	162.8
95°	137.8	145.5	153.2	158.0	160.0	162.0	164.0	166.0
97.5°	140.2	147.5	154.9	159.7	162.0	164.3	166.7	169.0
100°	140.0	148.0	156.0	161.1	163.4	165.8	168.1	170.4
102.5°	137.2	145.4	153.7	159.1	161.5	164.0	166.4	168.9
105°	132.0	140.1	148.3	153.7	156.3	159.0	161.6	164.3
107.5°	135.9	140.1	144.2	147.6	150.2	152.9	155.5	158.2
110°	169.4	158.3	147.2	143.0	145.7	148.3	151.0	153.6



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CATALOG NUMBER: S122DIW-S675D970U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	277.4	221.8	166.2	139.7	142.1	144.7	147.2	149.7
115°	370.6	298.1	225.6	184.3	174.1	164.0	153.9	143.8
117.5°	532.2	518.6	505.1	479.3	441.4	403.5	365.4	327.5
120°	607.0	614.0	621.1	614.2	593.5	572.7	552.0	531.3
122.5°	636.9	643.0	649.1	650.8	648.1	645.4	642.6	639.9
125°	679.2	685.2	691.3	695.3	697.4	699.6	701.7	703.8
127.5°	717.9	724.1	730.2	734.1	735.8	737.5	739.2	740.8
130°	742.4	748.6	754.7	758.4	759.7	761.0	762.2	763.5
132.5°	766.2	771.9	777.7	781.2	782.4	783.7	785.0	786.2
135°	800.3	805.6	811.1	814.4	815.6	816.7	817.7	818.8
137.5°	831.6	836.5	841.5	844.3	845.0	845.7	846.3	846.9
140°	852.2	856.5	860.9	863.2	863.5	863.7	864.0	864.2
142.5°	871.8	875.5	879.2	881.1	881.1	881.2	881.4	881.5
145°	900.0	902.2	904.5	905.6	905.7	905.8	905.9	905.9
147.5°	925.0	926.1	927.1	927.5	927.2	926.9	926.6	926.4
150°	941.4	942.4	943.4	943.5	942.7	941.8	941.0	940.2
152.5°	956.6	957.5	958.5	958.5	957.4	956.3	955.2	954.1
155°	977.0	977.9	979.0	978.8	977.5	976.1	974.8	973.4
157.5°	994.2	995.4	996.5	996.4	995.1	993.8	992.4	991.2
160°	1004.2	1005.2	1006.2	1006.2	1005.0	1003.8	1002.7	1001.5
162.5°	1013.6	1014.7	1015.9	1015.7	1014.2	1012.8	1011.4	1010.0
165°	1025.0	1026.2	1027.4	1027.4	1026.2	1025.0	1023.8	1022.6
167.5°	1034.5	1035.7	1036.9	1036.7	1035.2	1033.7	1032.2	1030.7
170°	1039.4	1040.5	1041.7	1041.6	1040.1	1038.6	1037.0	1035.5
172.5°	1043.0	1044.2	1045.4	1045.2	1043.7	1042.2	1040.7	1039.2
175°	1046.9	1048.1	1049.3	1049.1	1047.3	1045.7	1044.0	1042.4
177.5°	1047.4	1048.3	1049.2	1049.2	1047.9	1046.7	1045.5	1044.3
180°	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1

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