

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: P332820-930

Luminaire Tested: **S124DIW-S1020D1050U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332820-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S1020D1050U930-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1050 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6397.5 lumens
Efficiency: N/A
Efficacy: 104.5 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: General Diffuse

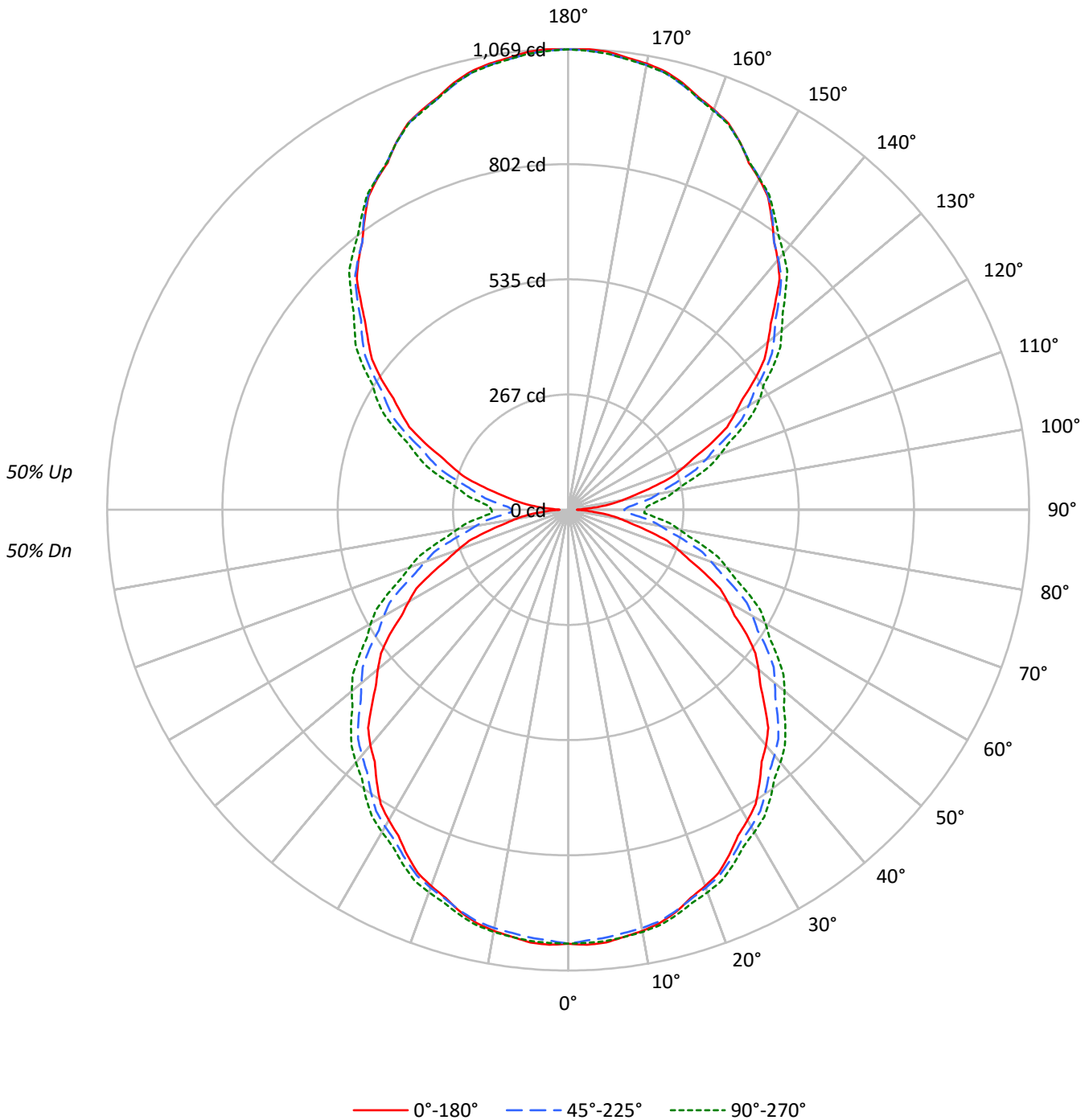
Input Watts (W): 61.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20			
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	83	83	83		69	69	69		56	56	56	50
1	97	92	88	84	89	85	81	78	71	69	66		59	57	55		48	46	45	40
2	88	80	73	68	80	74	68	63	62	58	54		51	48	45		41	39	37	32
3	80	70	62	56	73	64	58	52	54	49	45		45	41	38		36	34	31	27
4	73	61	53	47	67	57	49	44	48	42	38		40	36	32		32	29	27	23
5	67	55	46	40	61	50	43	37	43	37	32		36	31	28		29	26	23	20
6	61	49	40	34	56	45	38	32	38	33	28		32	28	24		26	23	20	17
7	57	44	36	30	52	41	33	28	35	29	25		29	25	21		24	20	18	15
8	52	40	32	26	48	37	30	25	32	26	22		27	22	19		22	18	16	13
9	49	36	29	23	45	34	27	22	29	23	19		24	20	17		20	17	14	12
10	46	33	26	21	42	31	24	20	27	21	17		23	18	15		19	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8127	8127	8127
5°	8151	7942	7965
10°	8102	7812	7807
15°	8029	7662	7620
20°	7920	7496	7438
25°	7797	7310	7239
30°	7663	7125	7034
35°	7511	6935	6855
40°	7390	6755	6667
45°	7210	6588	6507
50°	7059	6397	6337
55°	6902	6217	6138
60°	6657	5986	5956
65°	6389	5740	5734
70°	6066	5458	5474
75°	5612	5146	5239
80°	5110	4847	5007
85°	4474	4583	4872



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.3	1.5
10°-20°	273.1	4.3
20°-30°	413.0	6.5
30°-40°	499.7	7.8
40°-50°	528.2	8.3
50°-60°	497.1	7.8
60°-70°	412.5	6.4
70°-80°	289.7	4.5
80°-90°	167.0	2.6
90°-100°	167.7	2.6
100°-110°	280.7	4.4
110°-120°	402.5	6.3
120°-130°	494.2	7.7
130°-140°	536.2	8.4
140°-150°	517.7	8.1
150°-160°	433.5	6.8
160°-170°	288.4	4.5
170°-180°	101.0	1.6
0°-30°	781.4	12.2
0°-40°	1281.1	20.0
0°-60°	2306.5	36.1
0°-90°	3175.6	49.6
90°-120°	850.8	13.3
90°-150°	2399.1	37.5
90°-180°	3222.0	50.4
0°-180°	6397.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1007	1007	1007	1007	1007	
5°	1008	1004	996	1005	1004	96
15°	966	967	964	973	973	272
25°	884	890	894	906	907	407
35°	773	787	798	813	817	484
45°	645	666	688	706	712	498
55°	505	529	562	584	592	450
65°	349	386	424	451	461	346
75°	194	236	283	313	325	206
85°	60	107	158	190	203	64
90°	20	75	130	166	178	15
95°	64	109	161	192	204	67
105°	203	227	271	301	313	216
115°	367	378	411	434	442	362
125°	529	529	555	574	580	472
135°	679	684	692	707	712	525
145°	823	825	826	832	834	515
155°	942	942	941	944	941	433
165°	1025	1023	1021	1025	1022	289
175°	1066	1062	1061	1066	1061	101
180°	1068	1068	1068	1068	1068	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7
2.5°	1010.2	1009.7	1009.0	1008.4	1007.8	1006.7	1005.1	1003.6	1001.9	1000.3	1001.7
5°	1007.7	1007.0	1006.2	1005.5	1004.8	1003.5	1001.8	1000.0	998.3	996.5	998.5
7.5°	999.1	998.7	998.3	997.8	997.4	996.5	995.0	993.5	992.1	990.6	992.9
10°	992.0	991.7	991.5	991.2	991.0	990.2	989.0	987.7	986.4	985.2	987.5
12.5°	982.0	982.0	981.9	981.9	981.9	981.4	980.6	979.7	978.8	978.0	980.1
15°	966.0	966.3	966.5	966.8	967.0	966.8	966.0	965.3	964.5	963.8	966.0
17.5°	944.2	944.9	945.7	946.4	947.2	947.5	947.3	947.2	947.1	946.9	949.2
20°	928.9	929.6	930.3	931.1	931.9	932.4	932.6	932.9	933.1	933.4	935.9
22.5°	911.7	912.6	913.6	914.6	915.5	916.2	916.6	917.1	917.5	918.0	920.6
25°	883.8	885.3	886.7	888.3	889.7	890.9	891.6	892.4	893.2	893.9	896.7
27.5°	852.6	854.8	857.0	859.2	861.4	863.2	864.3	865.4	866.6	867.7	870.3
30°	831.9	833.9	835.9	837.9	839.9	841.8	843.5	845.3	847.0	848.8	851.6
32.5°	809.3	811.8	814.2	816.6	819.0	821.2	823.1	825.1	827.0	829.0	832.1
35°	773.3	776.3	779.3	782.3	785.3	788.1	790.6	793.0	795.6	798.1	801.6
37.5°	736.9	740.5	743.9	747.4	750.8	754.1	757.2	760.3	763.4	766.5	770.1
40°	713.5	716.8	720.1	723.3	726.6	729.9	733.4	736.9	740.5	744.0	747.7
42.5°	686.5	690.2	693.8	697.5	701.1	705.0	709.1	713.2	717.3	721.5	725.6
45°	644.7	649.5	654.3	659.1	663.8	668.5	673.4	678.1	682.8	687.6	691.9
47.5°	604.9	609.8	614.7	619.6	624.5	629.7	635.2	640.7	646.3	651.8	656.2
50°	576.0	581.6	587.0	592.6	598.0	603.6	609.1	614.6	620.1	625.6	630.6
52.5°	547.1	552.7	558.2	563.7	569.2	575.1	581.4	587.7	594.0	600.4	605.4
55°	505.0	510.3	515.5	520.8	526.0	532.4	540.0	547.5	555.0	562.5	567.5
57.5°	457.9	464.4	470.9	477.4	484.0	490.9	498.4	505.9	513.3	520.8	526.8
60°	427.2	433.7	440.3	446.8	453.3	460.6	469.0	477.2	485.4	493.7	499.5
62.5°	397.5	404.6	411.7	418.8	425.9	433.6	441.9	450.1	458.4	466.7	472.5
65°	349.4	357.4	365.5	373.5	381.5	389.8	398.3	406.8	415.3	423.9	430.1
67.5°	303.2	311.8	320.2	328.8	337.3	346.1	355.2	364.4	373.5	382.6	389.0
70°	271.7	280.2	288.7	297.2	305.7	314.8	324.2	333.8	343.3	352.9	359.6
72.5°	241.0	249.7	258.4	267.2	275.9	285.3	295.4	305.5	315.7	325.8	332.3
75°	193.9	203.2	212.4	221.7	231.0	240.8	251.4	261.9	272.4	282.9	289.9
77.5°	149.9	159.7	169.6	179.4	189.2	199.6	210.7	221.7	232.7	243.7	250.8
80°	122.9	132.9	142.9	153.0	163.0	173.5	184.5	195.5	206.5	217.5	225.1
82.5°	95.8	106.2	116.7	127.1	137.5	148.2	159.2	170.2	181.3	192.3	200.0
85°	59.8	70.3	80.8	91.3	101.8	112.8	124.0	135.3	146.5	157.8	165.3
87.5°	33.8	44.5	55.1	65.7	76.4	87.3	98.6	109.8	121.1	132.4	139.8
90°	20.5	32.5	44.6	56.7	68.6	80.8	93.0	105.3	117.6	129.8	138.1
92.5°	34.8	46.1	57.5	68.8	80.1	91.7	103.5	115.3	127.1	138.9	146.6
95°	64.2	74.1	84.1	94.0	103.9	114.6	126.2	137.7	149.3	160.9	168.1
97.5°	99.9	108.3	116.8	125.1	133.6	143.7	155.3	167.0	178.7	190.4	197.5
100°	128.0	135.3	142.5	149.8	157.0	166.3	177.7	189.2	200.6	212.1	219.2
102.5°	158.4	164.4	170.4	176.4	182.5	191.0	202.0	213.1	224.2	235.3	242.4
105°	202.6	207.8	213.0	218.2	223.4	231.0	241.0	250.9	261.0	271.0	277.8
107.5°	251.1	255.4	259.8	264.1	268.4	275.0	283.9	292.8	301.7	310.5	317.2
110°	283.2	287.1	291.0	294.8	298.7	304.9	313.6	322.1	330.7	339.3	344.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	316.7	319.8	323.0	326.2	329.4	335.0	343.1	351.1	359.1	367.1	372.7
115°	366.9	369.1	371.4	373.7	375.9	380.8	388.5	396.2	403.8	411.4	416.8
117.5°	415.2	416.7	418.2	419.7	421.2	425.6	432.8	440.0	447.2	454.4	459.0
120°	446.7	448.2	449.6	451.1	452.7	456.7	463.4	470.2	476.9	483.6	487.7
122.5°	480.4	480.9	481.3	481.7	482.2	485.7	492.3	498.9	505.5	512.1	516.5
125°	529.0	528.7	528.5	528.2	528.0	530.9	537.0	543.1	549.1	555.2	559.6
127.5°	573.8	574.1	574.5	574.8	575.0	577.5	582.0	586.5	591.0	595.5	599.7
130°	604.6	605.0	605.3	605.5	605.8	608.1	612.0	616.0	620.0	624.0	628.2
132.5°	637.1	637.2	637.3	637.5	637.6	639.3	642.3	645.4	648.4	651.5	655.4
135°	678.7	679.8	680.9	682.0	683.1	684.5	686.3	688.0	689.8	691.5	695.2
137.5°	725.3	725.5	725.8	726.1	726.4	727.0	728.1	729.3	730.5	731.6	734.8
140°	756.4	756.4	756.6	756.7	756.8	757.0	757.2	757.5	757.7	758.0	761.1
142.5°	783.8	784.2	784.5	784.8	785.1	785.1	784.8	784.6	784.2	783.9	786.8
145°	823.0	823.5	823.9	824.3	824.8	825.2	825.4	825.6	825.7	825.9	827.3
147.5°	861.9	862.5	863.2	863.8	864.5	864.7	864.5	864.4	864.2	864.1	864.1
150°	885.7	886.1	886.6	887.1	887.6	887.9	887.9	887.9	887.9	887.9	887.9
152.5°	907.3	907.7	908.1	908.4	908.8	909.1	909.2	909.4	909.5	909.7	910.1
155°	941.6	941.6	941.6	941.6	941.6	941.5	941.3	941.1	940.9	940.8	941.5
157.5°	970.6	970.3	970.0	969.6	969.3	969.1	969.1	969.1	969.0	969.0	969.6
160°	987.8	987.7	987.4	987.2	987.1	986.9	986.7	986.5	986.3	986.2	986.7
162.5°	1003.6	1003.2	1002.7	1002.2	1001.8	1001.4	1001.3	1001.1	1000.9	1000.7	1001.7
165°	1025.0	1024.4	1023.9	1023.4	1022.8	1022.3	1022.0	1021.6	1021.2	1020.8	1022.0
167.5°	1041.3	1040.6	1039.8	1039.0	1038.3	1037.9	1038.0	1038.0	1038.0	1038.0	1039.1
170°	1050.6	1049.7	1048.7	1047.8	1046.9	1046.5	1046.8	1046.9	1047.1	1047.3	1048.4
172.5°	1057.2	1056.4	1055.6	1054.9	1054.1	1053.8	1053.8	1053.9	1053.9	1053.9	1055.2
175°	1066.2	1065.4	1064.5	1063.6	1062.6	1062.1	1061.8	1061.7	1061.5	1061.4	1062.6
177.5°	1069.3	1068.5	1067.8	1067.1	1066.3	1065.9	1065.9	1065.9	1065.9	1065.9	1067.0
180°	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7
2.5°	1003.1	1004.5	1005.9	1006.5	1006.3	1006.1	1005.9	1005.8
5°	1000.5	1002.5	1004.5	1005.3	1005.1	1004.9	1004.6	1004.4
7.5°	995.2	997.4	999.6	1000.6	1000.4	1000.1	999.9	999.6
10°	989.7	992.0	994.3	995.2	995.0	994.7	994.5	994.3
12.5°	982.1	984.1	986.2	987.2	987.2	987.1	987.1	987.0
15°	968.3	970.5	972.8	973.8	973.5	973.3	973.1	972.8
17.5°	951.5	953.8	956.1	957.2	956.9	956.8	956.5	956.3
20°	938.3	940.9	943.4	944.6	944.6	944.6	944.6	944.6
22.5°	923.0	925.5	928.1	929.5	929.9	930.3	930.7	931.1
25°	899.4	902.1	904.9	906.4	906.7	906.9	907.2	907.4
27.5°	872.9	875.4	878.0	879.4	879.7	880.0	880.3	880.6
30°	854.4	857.0	859.8	861.4	861.9	862.4	863.0	863.5
32.5°	835.3	838.5	841.6	843.4	843.9	844.4	844.9	845.5
35°	805.1	808.6	812.1	814.2	815.0	815.7	816.5	817.3
37.5°	773.6	777.2	780.7	782.9	783.7	784.6	785.3	786.1
40°	751.5	755.2	759.0	761.4	762.4	763.4	764.4	765.4
42.5°	729.8	733.9	738.1	740.5	741.4	742.2	743.0	743.7
45°	696.1	700.4	704.7	707.4	708.7	709.9	711.2	712.4
47.5°	660.6	665.0	669.4	672.4	673.8	675.4	676.9	678.4
50°	635.6	640.7	645.6	648.9	650.4	651.9	653.4	654.9
52.5°	610.4	615.4	620.4	623.6	625.2	626.6	628.2	629.7
55°	572.5	577.6	582.5	585.8	587.3	588.8	590.3	591.8
57.5°	532.7	538.7	544.6	548.3	549.7	551.1	552.5	553.9
60°	505.2	511.0	516.7	520.7	522.7	524.6	526.7	528.6
62.5°	478.2	484.0	489.8	493.6	495.6	497.6	499.6	501.7
65°	436.3	442.6	448.9	453.1	455.0	457.1	459.0	461.1
67.5°	395.3	401.7	408.1	412.2	414.2	416.1	418.1	420.0
70°	366.3	373.1	379.8	384.2	385.9	387.7	389.4	391.2
72.5°	338.9	345.4	352.0	356.3	358.2	360.2	362.2	364.1
75°	296.9	303.9	311.0	315.6	317.9	320.2	322.4	324.7
77.5°	258.0	265.1	272.1	277.0	279.3	281.8	284.1	286.6
80°	232.6	240.1	247.6	252.3	254.4	256.4	258.4	260.4
82.5°	207.7	215.5	223.1	228.1	230.3	232.5	234.7	236.9
85°	172.8	180.3	187.8	192.9	195.4	197.9	200.4	202.9
87.5°	147.3	154.8	162.3	167.2	169.5	171.7	174.0	176.3
90°	146.5	154.8	163.2	168.6	171.0	173.3	175.7	178.1
92.5°	154.3	162.1	169.8	174.8	177.0	179.2	181.4	183.7
95°	175.5	182.8	190.1	194.9	197.1	199.4	201.6	203.9
97.5°	204.8	212.1	219.2	224.0	226.1	228.3	230.4	232.5
100°	226.3	233.4	240.6	245.0	246.8	248.5	250.3	252.0
102.5°	249.4	256.5	263.6	268.2	270.3	272.4	274.5	276.5
105°	284.6	291.4	298.2	302.9	305.5	308.0	310.5	313.2
107.5°	323.8	330.5	337.2	341.4	343.2	345.0	346.7	348.5
110°	350.1	355.5	360.9	364.8	367.4	370.0	372.5	375.0



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CATALOG NUMBER: S124DIW-S1020D1050U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	378.1	383.6	389.1	392.9	395.0	397.1	399.3	401.4
115°	422.1	427.4	432.8	436.2	437.7	439.4	440.9	442.5
117.5°	463.6	468.1	472.7	475.8	477.5	479.2	480.8	482.4
120°	491.8	495.9	499.9	503.2	505.6	507.9	510.3	512.7
122.5°	520.9	525.3	529.6	532.4	533.5	534.7	535.8	537.0
125°	564.0	568.3	572.7	575.5	576.7	577.8	578.9	580.1
127.5°	603.8	608.0	612.1	614.9	616.3	617.7	619.1	620.5
130°	632.3	636.5	640.6	643.1	643.8	644.6	645.4	646.1
132.5°	659.4	663.3	667.2	669.8	671.1	672.2	673.4	674.7
135°	698.8	702.5	706.1	708.4	709.4	710.3	711.3	712.2
137.5°	738.0	741.2	744.4	746.6	748.0	749.3	750.7	752.0
140°	764.1	767.2	770.3	772.3	773.4	774.5	775.5	776.7
142.5°	789.5	792.4	795.2	797.1	798.2	799.2	800.1	801.2
145°	828.6	829.9	831.2	832.1	832.6	833.0	833.5	833.9
147.5°	864.2	864.2	864.3	864.6	865.3	865.8	866.5	867.2
150°	887.9	887.9	887.9	887.8	887.6	887.5	887.2	887.0
152.5°	910.5	911.0	911.4	911.4	910.9	910.4	910.0	909.5
155°	942.2	943.0	943.7	943.7	943.0	942.2	941.5	940.8
157.5°	970.1	970.6	971.2	971.2	970.5	969.9	969.3	968.7
160°	987.2	987.8	988.4	988.1	987.2	986.3	985.5	984.5
162.5°	1002.7	1003.6	1004.7	1004.7	1003.8	1002.9	1001.9	1001.0
165°	1023.0	1024.2	1025.2	1025.4	1024.7	1023.9	1023.2	1022.5
167.5°	1040.2	1041.3	1042.4	1042.4	1041.3	1040.2	1039.0	1037.9
170°	1049.5	1050.6	1051.7	1051.6	1050.4	1049.0	1047.7	1046.4
172.5°	1056.4	1057.6	1058.9	1058.8	1057.6	1056.3	1055.0	1053.7
175°	1063.9	1065.2	1066.5	1066.5	1065.2	1063.9	1062.6	1061.4
177.5°	1068.0	1069.0	1070.1	1070.0	1068.8	1067.6	1066.5	1065.3
180°	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0

(END OF REPORT)