

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: P332813-927

Luminaire Tested: **S124DIW-S1020D770U927-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332813-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S1020D770U927-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 770 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5768.4 lumens
Efficiency: N/A
Efficacy: 107.6 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

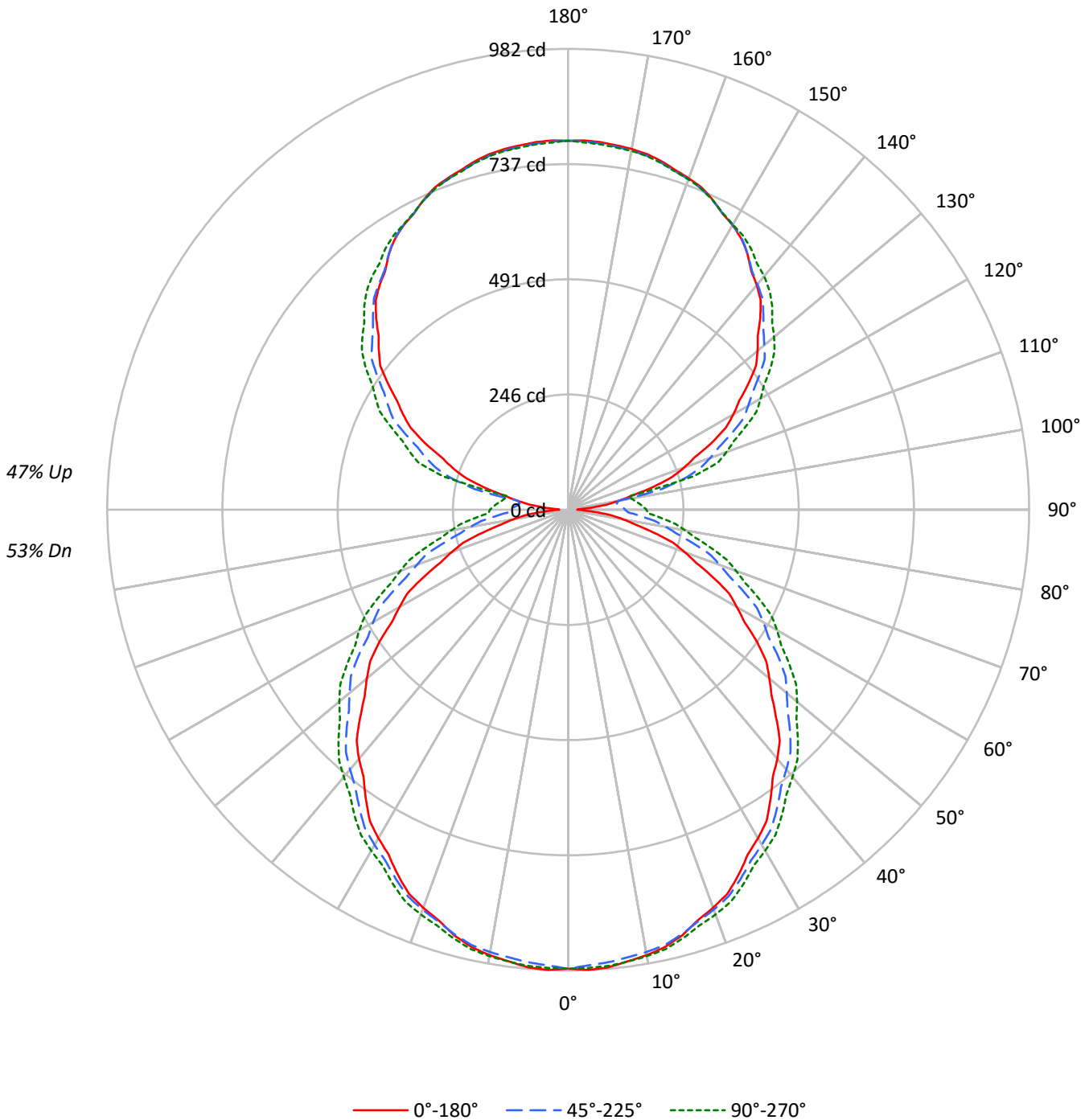
Input Watts (W): 53.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	108	108	108	108	100	100	100	100	85	85	85	72	72	72	59	59	59	53
1	97	93	88	84	90	86	82	79	73	70	68	61	59	58	51	49	48	43
2	88	80	74	68	81	74	69	64	63	59	55	53	50	47	44	42	39	35
3	80	70	62	56	74	65	58	53	56	50	46	47	43	39	39	36	33	29
4	73	62	54	47	67	57	50	44	49	43	39	41	37	33	34	31	28	25
5	67	55	46	40	62	51	44	38	44	38	33	37	32	29	31	27	24	21
6	62	49	41	35	57	46	38	33	39	33	29	33	29	25	28	24	21	18
7	57	44	36	30	53	41	34	29	36	30	25	30	26	22	25	22	19	16
8	53	40	32	27	49	38	30	25	32	27	22	28	23	20	23	20	17	14
9	49	37	29	24	45	34	27	22	30	24	20	25	21	18	21	18	15	13
10	46	34	26	21	43	31	25	20	27	22	18	23	19	16	20	16	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7896	7896	7896
5°	7920	7717	7739
10°	7872	7591	7585
15°	7802	7444	7404
20°	7695	7284	7227
25°	7575	7102	7034
30°	7445	6922	6835
35°	7299	6739	6660
40°	7181	6564	6478
45°	7007	6402	6322
50°	6859	6215	6158
55°	6707	6040	5964
60°	6469	5816	5788
65°	6208	5578	5571
70°	5894	5303	5319
75°	5453	5001	5089
80°	4964	4711	4865
85°	4347	4456	4735



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.6	1.6
10°-20°	265.4	4.6
20°-30°	401.3	7.0
30°-40°	485.5	8.4
40°-50°	513.3	8.9
50°-60°	483.1	8.4
60°-70°	400.8	6.9
70°-80°	281.5	4.9
80°-90°	161.4	2.8
90°-100°	121.4	2.1
100°-110°	241.4	4.2
110°-120°	374.9	6.5
120°-130°	442.8	7.7
130°-140°	456.9	7.9
140°-150°	418.9	7.3
150°-160°	335.9	5.8
160°-170°	216.7	3.8
170°-180°	74.7	1.3
0°-30°	759.3	13.2
0°-40°	1244.8	21.6
0°-60°	2241.1	38.9
0°-90°	3084.8	53.5
90°-120°	737.7	12.8
90°-150°	2056.3	35.6
90°-180°	2684.0	46.5
0°-180°	5768.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	978	978	978	978	978	
5°	979	976	968	976	976	93
15°	939	940	936	946	945	264
25°	859	865	868	880	882	395
35°	751	764	776	790	794	470
45°	626	647	668	686	692	484
55°	491	514	546	568	575	437
65°	340	375	412	438	448	336
75°	188	229	275	304	315	200
85°	58	104	153	185	197	62
90°	19	70	121	155	167	13
95°	47	64	108	140	152	53
105°	187	213	256	286	276	196
115°	337	350	383	407	416	332
125°	469	472	496	518	526	419
135°	578	578	588	606	614	446
145°	666	666	666	673	679	416
155°	729	729	727	729	728	336
165°	769	766	766	770	765	217
175°	786	783	783	788	782	75
180°	786	786	786	786	786	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	978.1	978.1	978.1	978.1	978.1	978.1	978.1	978.1	978.1	978.1	978.1
2.5°	981.6	981.0	980.4	979.9	979.2	978.2	976.6	975.1	973.5	971.9	973.3
5°	979.1	978.4	977.7	977.0	976.3	975.0	973.4	971.6	969.9	968.2	970.2
7.5°	970.8	970.4	969.9	969.6	969.1	968.2	966.8	965.4	963.9	962.5	964.7
10°	963.8	963.6	963.4	963.1	962.9	962.1	960.9	959.7	958.5	957.3	959.5
12.5°	954.2	954.2	954.1	954.0	954.0	953.5	952.8	951.9	951.1	950.2	952.3
15°	938.7	938.9	939.1	939.4	939.6	939.4	938.7	937.9	937.2	936.4	938.7
17.5°	917.4	918.1	918.9	919.6	920.4	920.6	920.4	920.4	920.2	920.0	922.3
20°	902.5	903.2	904.0	904.7	905.5	905.9	906.2	906.4	906.7	906.9	909.3
22.5°	885.8	886.8	887.7	888.7	889.5	890.3	890.7	891.1	891.5	892.0	894.5
25°	858.7	860.2	861.6	863.1	864.5	865.6	866.3	867.1	867.8	868.5	871.2
27.5°	828.5	830.6	832.7	834.9	837.0	838.7	839.8	840.9	842.0	843.1	845.7
30°	808.3	810.2	812.2	814.1	816.1	817.9	819.6	821.3	823.0	824.7	827.4
32.5°	786.4	788.8	791.1	793.4	795.7	797.9	799.8	801.7	803.6	805.5	808.5
35°	751.4	754.3	757.2	760.1	763.0	765.7	768.2	770.6	773.0	775.5	778.9
37.5°	716.1	719.5	722.8	726.2	729.5	732.7	735.7	738.7	741.8	744.8	748.2
40°	693.3	696.5	699.7	702.8	706.0	709.2	712.6	716.1	719.5	722.9	726.5
42.5°	667.0	670.6	674.1	677.7	681.2	685.0	689.0	693.0	697.0	701.0	705.0
45°	626.5	631.1	635.7	640.4	645.0	649.6	654.3	658.9	663.5	668.1	672.2
47.5°	587.7	592.5	597.2	602.1	606.8	611.9	617.2	622.6	628.0	633.3	637.5
50°	559.7	565.1	570.4	575.8	581.1	586.5	591.8	597.1	602.5	607.8	612.8
52.5°	531.6	537.0	542.3	547.7	553.1	558.8	564.9	571.1	577.2	583.4	588.2
55°	490.7	495.8	500.9	506.0	511.1	517.3	524.7	532.0	539.2	546.5	551.4
57.5°	444.9	451.2	457.6	463.9	470.2	477.0	484.3	491.5	498.8	506.0	511.8
60°	415.1	421.4	427.8	434.1	440.5	447.6	455.7	463.7	471.7	479.7	485.3
62.5°	386.2	393.1	400.1	406.9	413.8	421.3	429.4	437.4	445.4	453.4	459.1
65°	339.5	347.3	355.1	362.9	370.7	378.7	387.0	395.3	403.5	411.9	417.9
67.5°	294.6	302.9	311.2	319.5	327.7	336.3	345.2	354.0	362.9	371.8	378.0
70°	264.0	272.3	280.5	288.8	297.1	305.9	315.1	324.3	333.6	342.9	349.4
72.5°	234.2	242.6	251.1	259.6	268.1	277.2	287.0	296.8	306.7	316.6	322.9
75°	188.4	197.4	206.4	215.4	224.4	234.0	244.2	254.4	264.7	274.9	281.7
77.5°	145.7	155.2	164.8	174.3	183.9	193.9	204.7	215.4	226.1	236.8	243.7
80°	119.4	129.1	138.9	148.6	158.4	168.6	179.3	190.0	200.7	211.4	218.7
82.5°	93.1	103.2	113.4	123.5	133.6	144.0	154.7	165.4	176.2	186.9	194.3
85°	58.1	68.3	78.5	88.7	98.9	109.6	120.5	131.4	142.4	153.4	160.7
87.5°	32.8	43.0	53.2	63.5	73.7	84.2	95.1	105.9	116.8	127.7	134.9
90°	19.3	30.5	41.7	52.8	64.0	75.3	86.8	98.3	109.9	121.4	129.2
92.5°	24.1	32.9	41.7	50.5	59.4	69.6	81.1	92.6	104.1	115.7	123.3
95°	46.6	50.1	53.8	57.4	60.9	67.8	77.9	88.0	98.2	108.2	115.6
97.5°	81.6	91.3	101.0	110.7	120.3	122.8	118.1	113.4	108.7	104.0	110.5
100°	108.4	117.2	125.9	134.5	143.2	143.3	134.8	126.2	117.6	109.1	113.4
102.5°	139.5	146.8	154.1	161.4	168.7	175.7	182.7	189.6	196.5	203.5	185.9
105°	186.9	192.5	198.1	203.8	209.5	217.1	226.8	236.5	246.1	255.7	263.0
107.5°	232.6	237.0	241.4	245.7	250.2	257.1	266.5	275.8	285.3	294.7	301.3
110°	262.8	266.6	270.4	274.2	278.0	284.6	293.8	303.2	312.4	321.8	327.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	292.0	295.7	299.4	303.2	306.9	313.0	321.5	330.0	338.5	347.0	352.4
115°	337.1	339.6	342.2	344.8	347.4	352.5	360.1	367.8	375.5	383.1	388.7
117.5°	378.6	380.4	382.2	384.0	386.0	390.6	398.2	405.7	413.2	420.8	425.8
120°	405.9	407.2	408.4	409.7	410.9	415.0	421.9	428.9	435.8	442.8	447.9
122.5°	432.3	432.7	433.2	433.6	434.1	437.8	444.6	451.5	458.3	465.2	470.2
125°	468.9	469.2	469.4	469.8	470.0	473.1	479.0	484.7	490.6	496.4	501.4
127.5°	504.5	504.3	504.2	504.1	504.0	506.6	511.8	517.1	522.4	527.7	532.0
130°	526.6	526.5	526.4	526.3	526.2	528.2	532.6	536.9	541.1	545.4	549.9
132.5°	547.8	547.8	547.8	547.8	547.8	549.5	553.2	556.8	560.4	564.0	568.3
135°	578.5	578.3	578.2	578.1	577.9	579.0	581.2	583.4	585.7	587.9	592.1
137.5°	606.6	606.3	606.2	606.0	605.8	606.4	607.8	609.2	610.6	612.0	615.8
140°	624.9	625.0	625.0	625.0	625.0	625.3	625.7	626.2	626.8	627.2	630.8
142.5°	640.5	641.0	641.4	641.7	642.2	642.4	642.4	642.5	642.5	642.5	645.5
145°	665.6	665.7	665.8	666.0	666.1	666.2	666.2	666.2	666.2	666.2	667.8
147.5°	685.7	686.2	686.7	687.1	687.6	687.8	687.7	687.5	687.4	687.3	687.6
150°	700.3	700.5	700.8	701.1	701.4	701.5	701.3	701.2	701.1	700.9	700.9
152.5°	711.6	712.0	712.3	712.7	713.1	713.1	712.9	712.7	712.5	712.3	712.4
155°	728.6	728.7	728.8	729.0	729.1	729.0	728.6	728.2	727.8	727.4	727.9
157.5°	743.1	743.0	742.9	742.8	742.8	742.4	742.0	741.6	741.1	740.7	741.3
160°	751.5	751.1	750.8	750.4	750.0	749.6	749.6	749.4	749.2	749.2	750.0
162.5°	759.0	758.5	758.0	757.6	757.0	756.7	756.6	756.5	756.3	756.2	757.0
165°	768.6	767.9	767.2	766.6	766.0	765.6	765.6	765.6	765.6	765.6	766.7
167.5°	776.1	775.4	774.8	774.0	773.3	773.0	772.9	772.9	772.8	772.7	773.8
170°	780.3	779.5	778.7	777.9	777.2	776.8	777.0	777.1	777.2	777.4	778.4
172.5°	783.2	782.4	781.6	780.8	780.0	779.7	779.8	779.9	780.1	780.2	781.3
175°	786.2	785.4	784.7	783.9	783.1	782.8	782.8	783.0	783.2	783.2	784.4
177.5°	787.6	786.9	786.2	785.4	784.7	784.4	784.7	784.8	785.1	785.2	786.1
180°	786.2	786.2	786.2	786.2	786.2	786.2	786.2	786.2	786.2	786.2	786.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	978.1	978.1	978.1	978.1	978.1	978.1	978.1	978.1
2.5°	974.7	976.0	977.4	977.9	977.8	977.6	977.4	977.2
5°	972.1	974.1	976.0	976.8	976.6	976.4	976.1	975.9
7.5°	966.9	969.1	971.3	972.2	972.0	971.8	971.5	971.3
10°	961.6	963.8	966.1	967.0	966.8	966.5	966.3	966.1
12.5°	954.3	956.2	958.2	959.3	959.2	959.1	959.1	959.0
15°	940.9	943.0	945.2	946.2	945.9	945.7	945.5	945.2
17.5°	924.5	926.8	929.0	930.0	929.8	929.6	929.4	929.2
20°	911.7	914.2	916.6	917.8	917.8	917.8	917.8	917.8
22.5°	896.8	899.3	901.7	903.2	903.6	903.9	904.3	904.7
25°	873.9	876.5	879.2	880.7	881.0	881.2	881.5	881.7
27.5°	848.1	850.6	853.1	854.4	854.8	855.1	855.3	855.6
30°	830.1	832.7	835.4	837.0	837.5	838.0	838.5	839.0
32.5°	811.6	814.7	817.8	819.5	820.0	820.5	820.9	821.5
35°	782.3	785.7	789.1	791.2	791.9	792.6	793.4	794.1
37.5°	751.7	755.2	758.6	760.7	761.5	762.3	763.0	763.8
40°	730.2	733.8	737.5	739.8	740.8	741.7	742.8	743.7
42.5°	709.1	713.1	717.2	719.5	720.3	721.1	721.9	722.6
45°	676.4	680.6	684.7	687.4	688.6	689.8	691.0	692.2
47.5°	641.8	646.1	650.5	653.3	654.7	656.2	657.7	659.2
50°	617.6	622.5	627.3	630.5	632.0	633.4	634.9	636.4
52.5°	593.1	597.9	602.9	605.9	607.4	608.9	610.4	611.8
55°	556.3	561.2	566.0	569.2	570.6	572.1	573.5	575.0
57.5°	517.6	523.4	529.2	532.7	534.1	535.5	536.9	538.2
60°	490.9	496.5	502.1	505.9	507.9	509.8	511.7	513.7
62.5°	464.6	470.2	475.9	479.6	481.6	483.5	485.4	487.4
65°	424.0	430.1	436.2	440.2	442.1	444.1	446.0	448.0
67.5°	384.1	390.3	396.5	400.5	402.4	404.3	406.2	408.1
70°	355.9	362.5	369.1	373.3	374.9	376.7	378.3	380.1
72.5°	329.3	335.6	342.1	346.2	348.1	350.0	351.9	353.8
75°	288.5	295.3	302.1	306.7	308.9	311.1	313.2	315.4
77.5°	250.6	257.5	264.4	269.1	271.4	273.8	276.1	278.5
80°	226.0	233.3	240.6	245.2	247.2	249.1	251.0	253.0
82.5°	201.8	209.4	216.8	221.7	223.8	225.9	228.1	230.2
85°	167.9	175.2	182.5	187.4	189.9	192.3	194.7	197.2
87.5°	142.1	149.3	156.5	161.2	163.4	165.6	167.8	170.0
90°	137.0	144.9	152.7	157.8	159.9	162.2	164.4	166.6
92.5°	130.9	138.6	146.2	151.1	153.0	155.0	157.1	159.1
95°	122.9	130.3	137.7	142.5	144.8	147.1	149.5	151.8
97.5°	116.9	123.4	129.8	134.2	136.4	138.6	140.9	143.1
100°	117.8	122.2	126.5	129.6	131.4	133.2	135.1	137.0
102.5°	168.3	150.8	133.2	125.3	127.2	129.2	131.1	133.0
105°	270.3	277.5	284.8	287.1	284.3	281.5	278.8	276.0
107.5°	307.8	314.3	320.9	325.3	327.6	329.9	332.1	334.3
110°	333.4	339.3	345.2	349.3	351.6	353.9	356.3	358.6



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CATALOG NUMBER: S124DIW-S1020D770U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	357.7	363.1	368.4	372.3	374.8	377.2	379.6	382.1
115°	394.3	400.0	405.6	409.2	411.0	412.6	414.4	416.1
117.5°	430.8	435.8	440.8	444.3	446.2	448.1	450.0	451.9
120°	453.0	458.1	463.3	466.7	468.3	470.0	471.7	473.4
122.5°	475.2	480.2	485.3	488.5	490.0	491.5	493.0	494.5
125°	506.4	511.4	516.4	519.8	521.3	522.9	524.5	526.1
127.5°	536.3	540.6	544.9	547.8	549.4	550.9	552.5	554.1
130°	554.4	559.0	563.5	566.4	567.9	569.3	570.8	572.3
132.5°	572.7	576.9	581.3	584.2	585.5	586.8	588.2	589.5
135°	596.2	600.3	604.5	607.4	609.2	610.9	612.6	614.3
137.5°	619.7	623.5	627.4	629.9	631.0	632.2	633.3	634.5
140°	634.4	637.9	641.5	644.0	645.3	646.7	648.0	649.4
142.5°	648.6	651.6	654.7	656.7	657.8	658.9	659.9	660.9
145°	669.4	671.0	672.6	674.0	675.3	676.4	677.7	679.0
147.5°	687.9	688.2	688.5	689.1	690.0	690.9	691.8	692.8
150°	700.9	700.9	700.9	701.0	701.2	701.2	701.4	701.5
152.5°	712.6	712.8	713.0	713.1	713.0	713.0	712.9	712.8
155°	728.4	729.0	729.4	729.5	729.1	728.7	728.3	728.0
157.5°	742.0	742.8	743.4	743.4	742.8	742.0	741.3	740.7
160°	750.8	751.5	752.3	752.3	751.5	750.8	750.0	749.2
162.5°	757.8	758.5	759.3	759.3	758.4	757.5	756.6	755.7
165°	767.7	768.7	769.8	769.8	768.6	767.4	766.2	765.0
167.5°	775.0	776.1	777.3	777.2	775.9	774.6	773.2	772.0
170°	779.4	780.5	781.6	781.4	780.1	778.8	777.5	776.2
172.5°	782.3	783.3	784.3	784.2	782.8	781.4	780.0	778.6
175°	785.6	786.8	788.0	787.7	786.2	784.7	783.1	781.5
177.5°	787.0	787.7	788.6	788.4	787.1	785.8	784.7	783.4
180°	786.2	786.2	786.2	786.2	786.2	786.2	786.2	786.2

(END OF REPORT)