

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: P332628-930

Luminaire Tested: **S124DIP-S1020D365U930-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332628-930
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: S124DIP-S1020D365U930-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

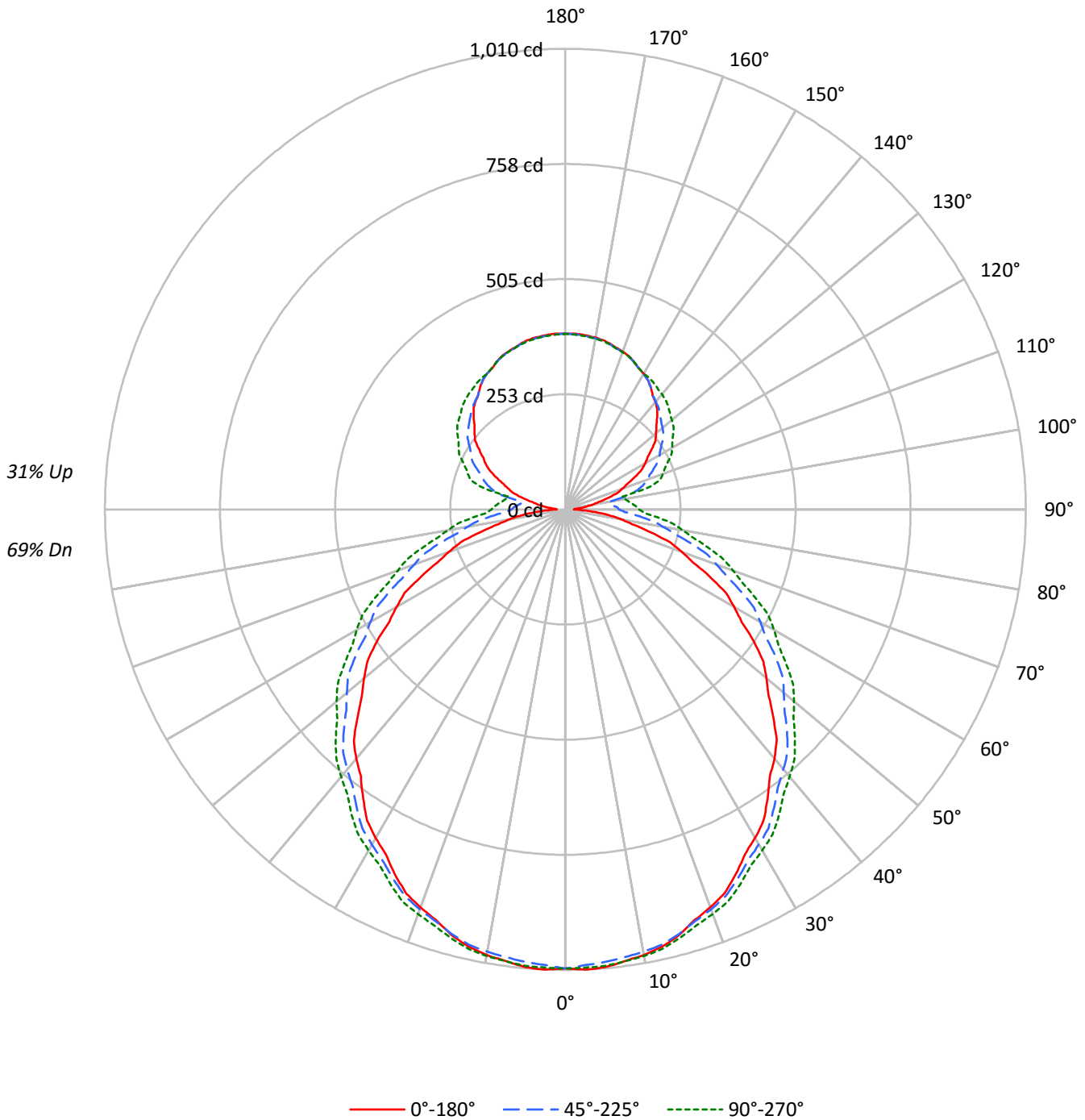
Lumens per Lamp: N/A
Luminaire Lumens: 4624.2 lumens
Efficiency: N/A
Efficacy: 106.3 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 43.5
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									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0							
RCR																																					
0	112	112	112	112	105	105	105	105	94	94	94	83	83	83	73	73	73	69																			
1	101	96	91	87	95	90	86	83	80	77	74	71	69	66	63	61	59	55																			
2	91	83	76	70	85	78	72	67	69	65	60	62	58	54	54	51	49	45																			
3	83	72	64	58	78	68	61	55	61	55	50	54	49	45	48	44	41	37																			
4	75	64	55	48	71	60	52	46	54	47	42	48	43	39	42	38	35	32																			
5	69	57	48	41	65	54	46	40	48	41	36	43	37	33	38	34	30	27																			
6	64	51	42	36	60	48	40	34	43	37	32	39	33	29	34	30	26	24																			
7	59	46	37	31	55	44	36	30	39	33	28	35	30	26	31	27	23	21																			
8	55	42	33	28	51	40	32	27	36	29	25	32	27	23	29	24	21	19																			
9	51	38	30	25	48	36	29	24	33	26	22	30	24	20	26	22	19	17																			
10	48	35	27	22	45	33	26	21	30	24	20	27	22	18	25	20	17	15																			

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	2.1
10°-20°	273.1	5.9
20°-30°	413.0	8.9
30°-40°	499.7	10.8
40°-50°	528.2	11.4
50°-60°	497.1	10.8
60°-70°	412.5	8.9
70°-80°	289.7	6.3
80°-90°	164.9	3.6
90°-100°	110.4	2.4
100°-110°	156.0	3.4
110°-120°	209.0	4.5
120°-130°	231.3	5.0
130°-140°	230.1	5.0
140°-150°	206.5	4.5
150°-160°	164.6	3.6
160°-170°	106.2	2.3
170°-180°	36.6	0.8
0°-30°	781.4	16.9
0°-40°	1281.1	27.7
0°-60°	2306.5	49.9
0°-90°	3173.6	68.6
90°-120°	475.5	10.3
90°-150°	1143.3	24.7
90°-180°	1451.0	31.4
0°-180°	4624.2	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°	19	67	118	151	162	13
95°	30	59	104	135	147	32
105°	97	122	164	193	194	102
115°	169	181	216	240	249	166
125°	232	234	260	281	289	207
135°	285	285	293	311	319	220
145°	327	326	326	333	339	204
155°	357	357	356	357	357	165
165°	377	375	375	377	375	106
175°	385	384	384	386	383	37
180°	385	385	385	385	385	



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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°	33.5	43.9	54.3	64.7	75.0	85.7	96.8	107.9	119.0	130.0	137.4
90°	18.9	29.6	40.4	51.0	61.8	72.8	84.1	95.4	106.6	118.0	125.6
92.5°	20.8	29.8	38.9	47.9	57.0	67.2	78.4	89.8	101.0	112.3	119.8
95°	30.5	36.6	42.6	48.8	54.9	63.1	73.4	83.7	94.1	104.4	111.5
97.5°	47.0	55.4	63.9	72.4	80.9	86.6	89.6	92.6	95.6	98.7	105.3
100°	59.7	67.3	75.0	82.7	90.3	94.6	95.6	96.4	97.4	98.3	104.0
102.5°	74.8	81.4	88.0	94.6	101.1	108.6	117.0	125.4	133.8	142.3	137.1
105°	96.9	102.2	107.7	113.1	118.5	126.0	135.5	145.1	154.7	164.3	171.1
107.5°	119.2	123.5	127.8	132.1	136.4	143.2	152.3	161.5	170.7	179.9	186.4
110°	133.5	137.2	140.9	144.6	148.3	154.7	163.9	173.0	182.1	191.4	197.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	147.3	150.8	154.3	157.7	161.2	167.1	175.7	184.3	192.8	201.3	206.8
115°	168.7	171.1	173.6	176.0	178.5	183.7	191.6	199.6	207.6	215.5	221.1
117.5°	188.9	190.5	192.2	193.7	195.3	200.0	207.6	215.2	222.8	230.4	235.5
120°	201.9	202.8	203.9	204.9	205.9	210.0	217.2	224.4	231.6	238.8	243.9
122.5°	214.7	215.1	215.4	215.6	216.0	219.6	226.6	233.5	240.4	247.4	252.5
125°	232.1	232.1	232.1	232.1	232.2	235.2	241.3	247.5	253.6	259.8	264.7
127.5°	249.4	249.2	249.1	248.9	248.7	251.1	256.2	261.4	266.4	271.6	276.1
130°	259.8	259.7	259.4	259.3	259.1	261.1	265.3	269.5	273.7	277.9	282.4
132.5°	270.2	270.0	269.9	269.8	269.6	271.3	274.8	278.2	281.7	285.1	289.5
135°	284.6	284.5	284.5	284.5	284.4	285.4	287.4	289.3	291.4	293.3	297.5
137.5°	298.4	298.2	298.0	297.7	297.5	298.0	299.1	300.2	301.3	302.5	306.3
140°	307.4	307.3	307.1	307.0	306.9	307.0	307.4	307.8	308.2	308.5	312.0
142.5°	314.5	314.7	315.0	315.1	315.3	315.4	315.3	315.2	315.1	315.0	318.0
145°	326.7	326.7	326.6	326.5	326.5	326.4	326.4	326.4	326.4	326.4	328.0
147.5°	336.6	336.7	336.8	336.9	337.0	337.0	337.0	336.9	336.8	336.8	337.0
150°	343.7	343.7	343.7	343.7	343.7	343.7	343.6	343.6	343.5	343.5	343.5
152.5°	348.8	348.9	349.1	349.3	349.4	349.4	349.4	349.2	349.1	349.0	349.1
155°	357.0	357.1	357.1	357.2	357.3	357.2	357.0	356.8	356.6	356.4	356.7
157.5°	364.1	364.0	364.0	363.9	363.9	363.8	363.6	363.4	363.1	363.0	363.3
160°	368.3	368.0	367.9	367.7	367.5	367.4	367.3	367.2	367.1	367.0	367.5
162.5°	371.9	371.7	371.5	371.2	371.0	370.8	370.7	370.6	370.6	370.6	371.0
165°	376.6	376.3	375.9	375.6	375.3	375.1	375.1	375.1	375.1	375.1	375.7
167.5°	380.3	379.9	379.6	379.3	379.0	378.8	378.7	378.7	378.6	378.6	379.2
170°	382.4	382.0	381.6	381.2	380.8	380.7	380.7	380.8	380.8	380.9	381.4
172.5°	383.8	383.4	382.9	382.6	382.2	382.0	382.1	382.2	382.2	382.3	382.8
175°	385.2	384.8	384.5	384.1	383.7	383.5	383.6	383.7	383.8	383.8	384.4
177.5°	386.0	385.6	385.2	384.8	384.5	384.3	384.5	384.6	384.7	384.7	385.2
180°	385.2	385.2	385.2	385.2	385.2	385.2	385.2	385.2	385.2	385.2	385.2



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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°	144.7	152.1	159.4	164.1	166.4	168.6	170.8	173.1
90°	133.2	140.9	148.5	153.4	155.6	157.7	159.8	161.9
92.5°	127.2	134.6	142.1	146.8	148.9	150.9	153.0	154.9
95°	118.7	125.9	133.0	137.7	140.1	142.4	144.7	147.0
97.5°	111.9	118.5	125.1	129.5	131.8	134.0	136.2	138.4
100°	109.7	115.4	121.1	124.8	126.6	128.4	130.3	132.1
102.5°	131.9	126.7	121.6	119.9	121.9	123.8	125.8	127.8
105°	178.0	184.8	191.7	194.9	194.6	194.3	194.0	193.7
107.5°	192.8	199.3	205.7	209.9	212.0	214.1	216.1	218.2
110°	203.1	209.0	214.9	218.9	221.1	223.3	225.5	227.7



TEST NUMBER: P332628-930

CATALOG NUMBER: S124DIP-S1020D365U930-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	212.4	217.9	223.5	227.4	229.6	231.9	234.1	236.4
115°	226.7	232.4	238.1	241.7	243.5	245.2	247.0	248.7
117.5°	240.8	246.0	251.1	254.7	256.7	258.7	260.7	262.6
120°	249.1	254.2	259.3	262.9	264.7	266.6	268.5	270.4
122.5°	257.6	262.7	267.7	271.2	272.8	274.5	276.1	277.9
125°	269.7	274.6	279.6	282.8	284.4	286.0	287.6	289.1
127.5°	280.5	284.9	289.4	292.5	294.2	295.8	297.4	299.1
130°	287.1	291.6	296.2	299.2	300.7	302.2	303.7	305.2
132.5°	293.8	298.2	302.6	305.5	307.0	308.4	309.9	311.3
135°	301.7	305.8	309.9	312.8	314.5	316.1	317.7	319.4
137.5°	310.1	313.9	317.7	320.2	321.4	322.6	323.8	325.1
140°	315.4	318.9	322.4	324.7	326.0	327.3	328.6	330.0
142.5°	321.1	324.0	327.0	329.1	330.1	331.2	332.2	333.3
145°	329.6	331.2	332.7	334.1	335.2	336.3	337.5	338.6
147.5°	337.3	337.5	337.8	338.3	339.2	340.1	341.0	341.8
150°	343.5	343.5	343.5	343.5	343.6	343.6	343.6	343.7
152.5°	349.2	349.3	349.4	349.4	349.4	349.4	349.4	349.3
155°	356.9	357.2	357.4	357.5	357.3	357.1	356.9	356.7
157.5°	363.6	363.9	364.3	364.3	363.9	363.6	363.3	363.0
160°	367.9	368.3	368.6	368.6	368.3	367.9	367.5	367.0
162.5°	371.3	371.7	372.1	372.0	371.6	371.2	370.7	370.3
165°	376.2	376.7	377.2	377.2	376.6	376.0	375.4	374.9
167.5°	379.8	380.3	380.8	380.8	380.2	379.5	378.9	378.3
170°	382.0	382.5	382.9	382.9	382.3	381.6	381.0	380.3
172.5°	383.4	383.8	384.3	384.3	383.6	382.9	382.2	381.5
175°	385.0	385.6	386.1	386.0	385.2	384.5	383.7	382.9
177.5°	385.6	386.0	386.5	386.3	385.7	385.1	384.5	383.8
180°	385.2	385.2	385.2	385.2	385.2	385.2	385.2	385.2

(END OF REPORT)