

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: P332630-927

Luminaire Tested: **S124DIP-S1020D365U927-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332630-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S1020D365U927-4F0-1E-UDD-D4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4371.4 lumens
Efficiency: N/A
Efficacy: 100.5 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: Semi-Direct

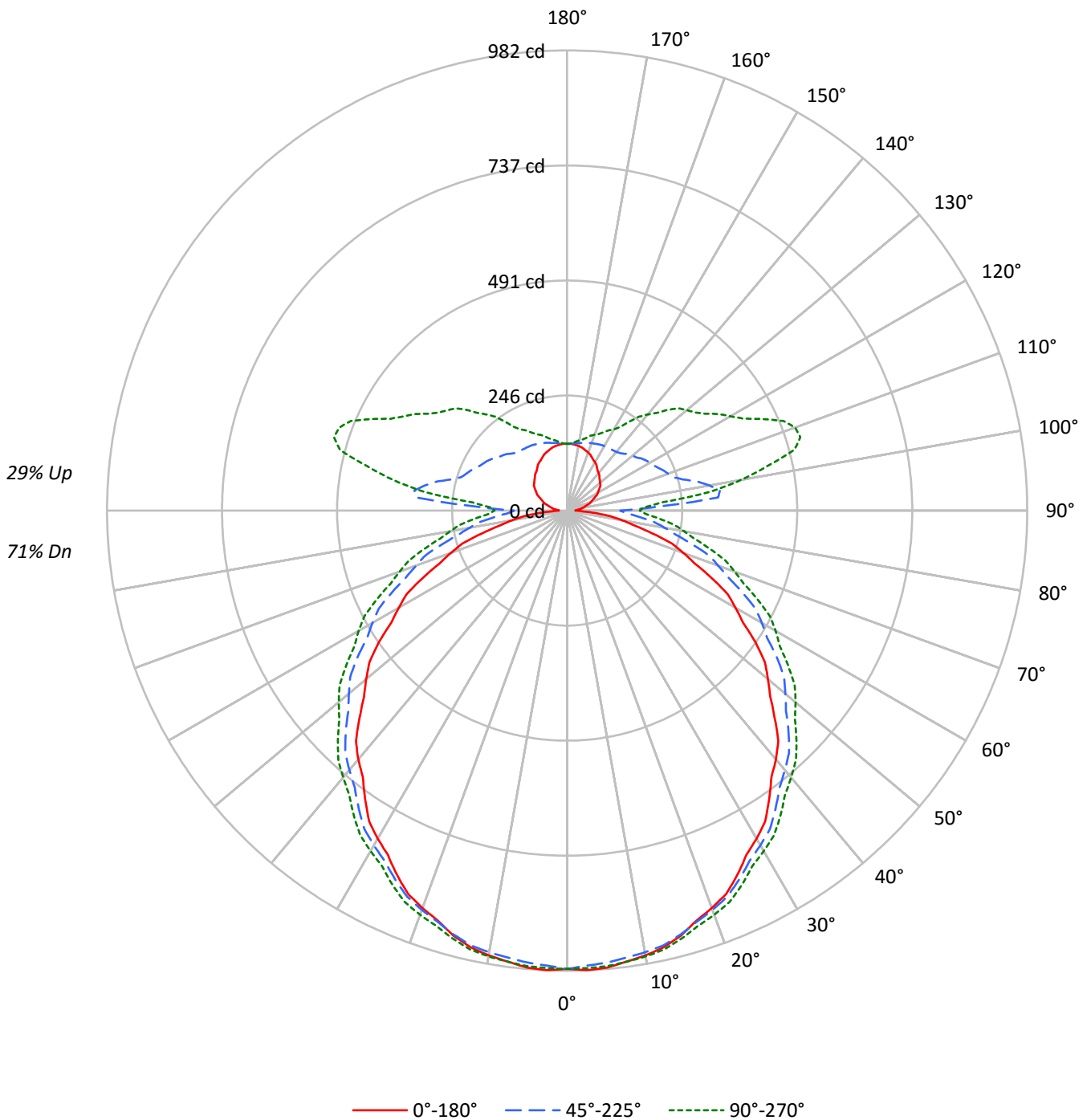
Input Watts (W): 43.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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									70									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	0																			
RCR	0	112	112	112	112	106	106	106	106	95	95	95	84	84	84	75	75	75	71	71	71	71	71	71	71	71	71																			
	1	101	96	91	87	95	91	87	83	81	78	75	72	70	68	64	62	61	56	56	56	56	56	56	56	56	56																			
	2	91	83	76	70	86	79	72	67	70	65	61	63	59	55	56	53	50	46	46	46	46	46	46	46	46	46																			
	3	83	72	64	58	78	69	61	55	61	56	51	55	50	46	49	45	42	38	38	38	38	38	38	38	38	38																			
	4	76	64	55	49	71	61	53	47	54	48	43	49	43	39	43	39	36	32	32	32	32	32	32	32	32	32																			
	5	69	57	48	41	65	54	46	40	49	42	37	43	38	34	39	34	31	28	28	28	28	28	28	28	28	28																			
	6	64	51	42	36	60	48	40	35	44	37	32	39	34	29	35	31	27	24	24	24	24	24	24	24	24	24																			
	7	59	46	37	31	56	44	36	30	40	33	28	36	30	26	32	27	24	21	21	21	21	21	21	21	21	21																			
	8	55	42	33	28	52	40	32	27	36	30	25	33	27	23	29	25	21	19	19	19	19	19	19	19	19	19																			
	9	51	38	30	25	48	36	29	24	33	27	22	30	25	21	27	22	19	17	17	17	17	17	17	17	17	17																			
	10	48	35	27	22	45	34	26	22	31	24	20	28	22	19	25	21	17	15	15	15	15	15	15	15	15	15																			

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	2.1
10°-20°	265.4	6.1
20°-30°	401.3	9.2
30°-40°	485.5	11.1
40°-50°	513.3	11.7
50°-60°	483.1	11.1
60°-70°	400.8	9.2
70°-80°	281.5	6.4
80°-90°	159.9	3.7
90°-100°	197.4	4.5
100°-110°	284.2	6.5
110°-120°	238.8	5.5
120°-130°	187.9	4.3
130°-140°	146.0	3.3
140°-150°	105.1	2.4
150°-160°	72.3	1.7
160°-170°	42.5	1.0
170°-180°	13.8	0.3
0°-30°	759.3	17.4
0°-40°	1244.8	28.5
0°-60°	2241.1	51.3
0°-90°	3083.3	70.5
90°-120°	720.4	16.5
90°-150°	1159.5	26.5
90°-180°	1288.0	29.5
0°-180°	4371.4	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°	18	64	113	145	155	12
95°	23	80	323	237	203	22
105°	43	80	256	494	502	46
115°	64	90	215	389	462	64
125°	85	100	194	318	360	76
135°	98	116	171	264	304	76
145°	111	126	161	207	231	70
155°	125	135	156	177	184	58
165°	136	141	150	159	161	38
175°	142	142	144	146	145	13
180°	142	142	142	142	142	



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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°	32.5	42.5	52.6	62.6	72.6	82.9	93.9	104.6	115.3	126.1	133.1
90°	17.8	28.1	38.7	48.7	58.7	68.8	81.0	91.4	102.4	113.4	120.3
92.5°	19.8	30.0	41.4	53.6	66.5	81.9	106.6	138.8	170.4	191.9	184.0
95°	23.4	32.3	43.2	54.8	69.6	90.4	124.7	180.6	257.5	323.4	336.5
97.5°	29.5	36.4	45.7	56.0	68.7	86.9	115.6	163.3	239.8	328.8	389.7
100°	33.4	39.7	47.9	57.6	69.3	86.1	112.2	153.3	219.9	308.3	386.6
102.5°	37.8	43.8	51.1	59.8	70.4	86.3	110.6	147.7	205.7	284.9	365.2
105°	42.6	48.3	54.6	62.8	72.7	87.8	110.2	142.4	190.7	256.0	327.8
107.5°	50.1	54.7	60.0	67.7	76.4	90.7	111.5	141.2	183.2	237.0	296.8
110°	54.4	58.4	63.1	69.9	78.4	91.9	112.7	140.9	180.2	229.3	280.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	58.5	62.0	66.7	72.8	80.9	94.0	114.0	140.6	177.5	222.9	269.0
115°	64.2	67.3	71.5	76.4	83.9	96.5	115.5	140.1	173.9	215.2	255.9
117.5°	71.5	73.5	76.6	81.0	87.3	99.4	117.2	140.0	170.6	208.4	246.1
120°	75.5	76.8	79.5	83.3	88.7	100.4	118.2	139.8	168.4	204.1	240.0
122.5°	79.9	80.6	82.8	85.8	91.1	102.1	119.5	139.8	166.4	199.4	233.8
125°	84.8	85.6	87.1	89.9	95.0	105.8	121.9	140.9	164.5	193.6	225.1
127.5°	89.8	90.4	92.1	95.5	100.8	110.8	125.2	141.7	161.8	186.4	214.4
130°	91.7	92.6	94.7	98.6	103.7	113.6	127.0	141.8	160.0	181.8	207.5
132.5°	94.7	95.3	98.0	101.7	107.3	116.4	129.0	142.8	158.8	178.1	201.5
135°	97.7	98.8	101.6	106.3	112.3	120.3	131.3	143.1	156.3	171.4	191.5
137.5°	101.7	102.6	105.4	109.7	115.6	122.8	132.2	142.5	153.5	166.3	183.2
140°	104.6	105.3	108.1	112.6	118.3	125.0	133.6	142.8	152.6	163.4	178.6
142.5°	106.9	107.7	110.5	115.0	120.6	127.0	135.1	143.1	152.1	161.7	175.2
145°	111.1	111.7	114.3	118.0	123.0	129.0	136.3	143.9	152.0	160.7	171.1
147.5°	116.1	116.1	118.4	122.2	126.4	131.7	138.6	145.2	152.3	159.7	167.8
150°	119.2	119.3	121.3	124.4	128.3	133.6	139.7	145.8	152.3	159.0	166.0
152.5°	121.3	121.3	123.5	126.6	130.2	135.1	140.6	146.3	151.9	157.9	164.2
155°	125.2	125.4	127.1	129.9	133.0	137.2	142.0	146.7	151.2	156.2	161.5
157.5°	129.1	129.1	130.7	132.8	135.5	138.9	142.9	146.7	150.4	154.5	158.8
160°	131.6	131.6	132.7	134.7	136.9	140.0	143.4	146.7	149.8	153.1	156.8
162.5°	133.8	133.6	134.5	136.3	138.2	140.7	143.8	146.7	149.1	151.8	155.0
165°	136.3	136.3	136.9	138.3	139.7	141.4	143.9	146.2	147.8	149.8	152.0
167.5°	138.9	138.6	138.9	139.9	140.7	142.0	143.9	145.4	146.5	147.7	149.3
170°	140.0	139.7	140.0	140.9	141.4	142.2	143.6	145.0	145.6	146.4	147.6
172.5°	141.1	140.9	140.9	141.5	141.8	142.4	143.4	144.6	144.7	145.0	146.0
175°	142.2	142.0	142.0	142.2	142.5	142.5	143.1	143.9	143.6	143.6	144.2
177.5°	142.8	142.5	142.3	142.5	142.5	142.5	142.8	143.1	142.8	142.8	143.0
180°	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5



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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°	140.2	147.3	154.4	159.1	161.2	163.4	165.5	167.6
90°	127.6	134.9	142.3	146.8	149.0	151.2	152.9	154.9
92.5°	171.9	165.2	163.6	162.4	161.0	161.4	162.4	164.4
95°	315.9	279.1	248.1	225.4	213.8	207.3	204.5	203.0
97.5°	407.7	398.0	377.0	352.0	334.0	319.2	312.9	309.2
100°	434.0	446.2	439.0	422.5	399.8	384.4	377.8	377.2
102.5°	427.7	461.8	472.2	467.7	454.6	444.2	437.2	437.4
105°	398.1	452.6	486.3	501.8	504.4	504.1	502.1	502.3
107.5°	359.5	417.1	462.1	490.9	506.5	514.7	519.2	521.7
110°	336.0	390.0	436.2	470.8	492.6	506.3	513.3	517.8



TEST NUMBER: P332630-927

CATALOG NUMBER: S124DIP-S1020D365U927-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	317.1	365.4	409.1	443.5	468.1	484.3	493.2	499.3
115°	296.3	336.0	374.1	404.6	428.4	446.9	457.6	461.5
117.5°	282.2	315.7	346.5	372.8	393.6	409.7	420.7	424.4
120°	274.3	305.1	332.4	355.7	373.6	387.9	397.1	402.1
122.5°	267.2	297.1	322.4	343.2	358.4	370.7	378.6	383.4
125°	256.6	285.3	309.3	327.7	340.4	349.9	356.7	359.9
127.5°	244.0	271.3	295.0	312.6	325.5	334.5	340.6	343.9
130°	235.1	261.6	285.0	302.8	315.7	324.2	330.1	333.3
132.5°	226.5	251.4	274.3	291.9	304.6	313.9	319.7	322.8
135°	213.1	235.2	256.1	272.8	285.5	294.8	300.7	303.9
137.5°	201.5	220.4	238.4	253.4	265.1	274.0	278.9	282.2
140°	194.7	211.0	226.8	240.7	251.8	259.1	264.3	267.8
142.5°	189.0	203.4	217.0	229.1	238.8	245.5	250.0	252.6
145°	181.6	192.5	202.4	211.4	219.4	225.1	228.9	231.3
147.5°	175.4	183.2	190.0	196.7	202.6	207.5	210.4	211.7
150°	172.8	179.2	184.8	189.8	194.3	198.0	199.6	199.9
152.5°	170.3	175.9	181.0	185.1	188.9	191.9	192.9	193.2
155°	166.6	171.0	175.2	178.6	181.4	183.6	184.5	184.5
157.5°	162.6	166.4	169.9	172.6	174.7	176.4	176.9	176.9
160°	160.2	163.2	166.3	168.6	170.2	171.9	172.2	172.2
162.5°	157.7	160.3	162.7	164.8	166.0	167.6	167.9	167.7
165°	154.2	156.0	157.9	159.3	160.4	161.5	161.3	161.0
167.5°	151.0	152.3	153.8	154.6	155.2	156.0	155.9	155.7
170°	148.9	149.8	150.9	151.8	152.3	152.6	152.3	152.3
172.5°	147.2	147.7	148.5	149.1	149.4	149.6	149.4	148.9
175°	144.7	145.0	145.6	145.6	145.6	146.2	145.6	145.0
177.5°	143.1	143.4	143.4	143.6	143.4	143.6	143.1	142.8
180°	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5

(END OF REPORT)