

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: P332838-927

Luminaire Tested: **S124DIW-S1195D470U927-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332838-927
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-S1195D470U927-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 470 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5139.8 lumens
Efficiency: N/A
Efficacy: 98.1 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

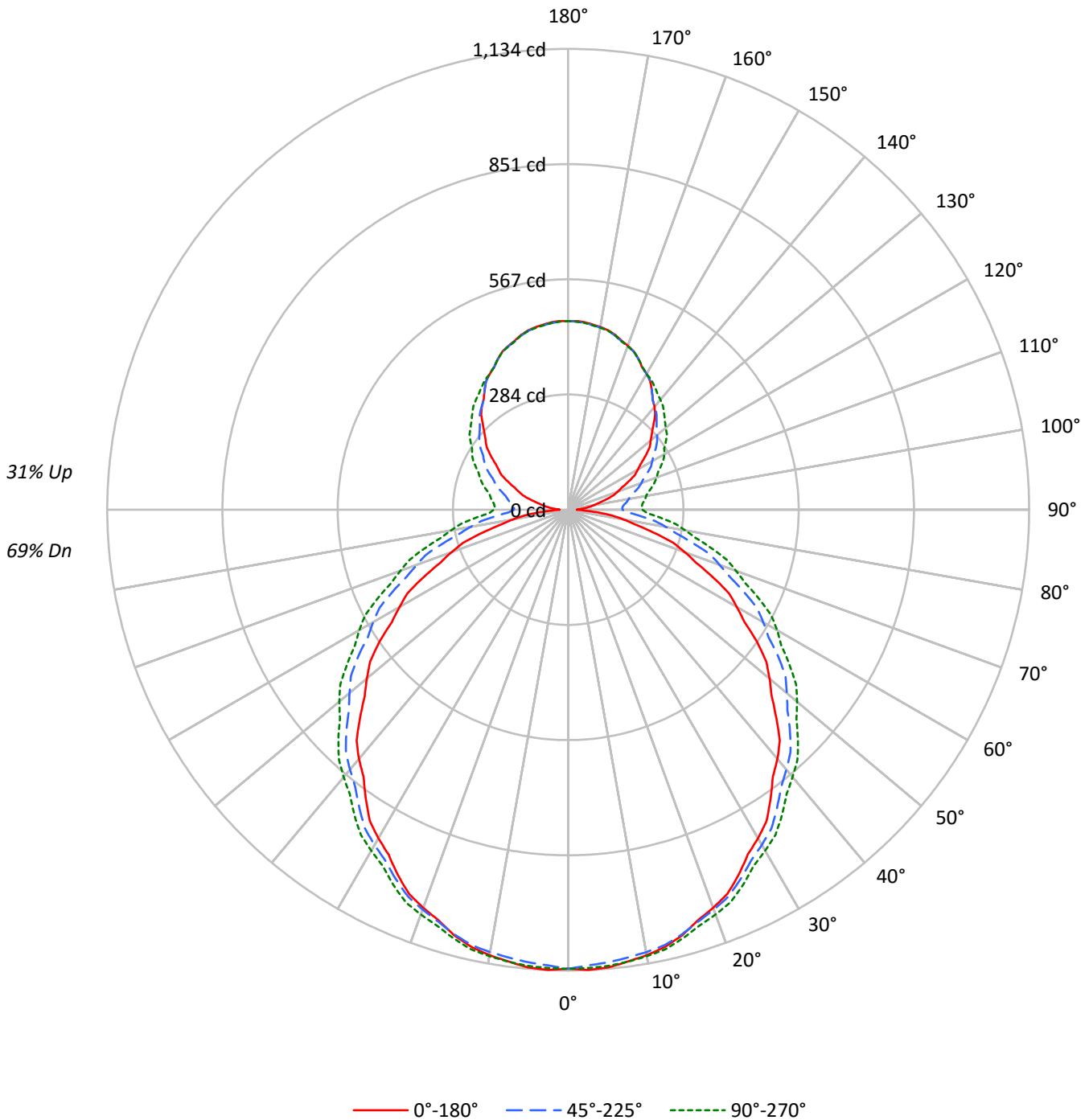
Input Watts (W): 52.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	112	112	112	112	106	106	106	106	94	94	94	84	84	84	74	74	74	69
1	101	96	91	87	95	90	86	83	81	77	75	71	69	67	63	61	60	55
2	91	83	76	70	86	78	72	67	70	65	61	62	58	55	55	52	49	45
3	83	72	64	58	78	68	61	55	61	55	50	54	50	46	48	44	41	38
4	76	64	55	48	71	60	52	46	54	48	43	48	43	39	43	38	35	32
5	69	57	48	41	65	54	46	40	48	42	36	43	38	33	38	34	30	27
6	64	51	42	36	60	48	40	34	43	37	32	39	33	29	35	30	27	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	52	40	32	27	36	29	25	32	27	23	29	24	21	19
9	51	38	30	25	48	36	29	24	33	27	22	30	24	20	27	22	19	17
10	48	35	27	22	45	33	26	21	30	24	20	27	22	19	25	20	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9120	9120	9120
5°	9147	8912	8938
10°	9092	8767	8760
15°	9010	8598	8551
20°	8888	8412	8347
25°	8749	8203	8124
30°	8599	7995	7894
35°	8429	7783	7692
40°	8293	7580	7482
45°	8093	7394	7302
50°	7922	7178	7111
55°	7746	6976	6888
60°	7471	6718	6685
65°	7170	6440	6434
70°	6805	6123	6141
75°	6298	5775	5878
80°	5734	5442	5618
85°	5012	5144	5468



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.0	2.1
10°-20°	306.5	6.0
20°-30°	463.4	9.0
30°-40°	560.7	10.9
40°-50°	592.8	11.5
50°-60°	557.9	10.9
60°-70°	462.9	9.0
70°-80°	325.1	6.3
80°-90°	185.2	3.6
90°-100°	139.8	2.7
100°-110°	171.5	3.3
110°-120°	208.1	4.0
120°-130°	233.6	4.5
130°-140°	241.2	4.7
140°-150°	226.7	4.4
150°-160°	188.4	3.7
160°-170°	125.3	2.4
170°-180°	43.9	0.9
0°-30°	876.9	17.1
0°-40°	1437.6	28.0
0°-60°	2588.3	50.4
0°-90°	3561.4	69.3
90°-120°	519.4	10.1
90°-150°	1220.7	23.8
90°-180°	1578.0	30.7
0°-180°	5139.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1130	1130	1130	1130	1130	
5°	1131	1127	1118	1128	1127	107
15°	1084	1085	1082	1092	1092	305
25°	992	999	1003	1016	1018	457
35°	868	883	896	912	917	543
45°	724	748	772	792	800	559
55°	567	594	631	656	664	505
65°	392	433	476	506	517	389
75°	218	265	318	352	364	231
85°	67	120	177	214	228	71
90°	21	76	133	170	183	15
95°	38	84	137	171	184	37
105°	95	122	169	200	213	102
115°	164	177	215	242	251	162
125°	233	234	263	285	293	208
135°	296	299	308	326	334	230
145°	358	359	359	366	370	224
155°	409	409	409	410	409	188
165°	445	444	444	446	444	126
175°	463	462	461	464	461	44
180°	464	464	464	464	464	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7
2.5°	1133.7	1133.0	1132.3	1131.6	1131.0	1129.7	1127.9	1126.2	1124.3	1122.5	1124.1
5°	1130.8	1130.0	1129.2	1128.4	1127.5	1126.1	1124.1	1122.1	1120.2	1118.2	1120.5
7.5°	1121.3	1120.8	1120.2	1119.7	1119.3	1118.2	1116.6	1114.9	1113.3	1111.7	1114.2
10°	1113.2	1112.9	1112.6	1112.3	1112.1	1111.2	1109.8	1108.4	1107.0	1105.6	1108.1
12.5°	1102.0	1102.0	1101.9	1101.8	1101.8	1101.3	1100.3	1099.4	1098.4	1097.5	1099.8
15°	1084.1	1084.3	1084.7	1084.9	1085.2	1084.9	1084.1	1083.2	1082.4	1081.6	1084.1
17.5°	1059.5	1060.4	1061.2	1062.1	1062.9	1063.3	1063.1	1062.9	1062.7	1062.6	1065.2
20°	1042.4	1043.1	1044.0	1044.9	1045.7	1046.2	1046.6	1046.9	1047.1	1047.4	1050.2
22.5°	1023.1	1024.1	1025.2	1026.3	1027.4	1028.2	1028.6	1029.2	1029.7	1030.2	1033.0
25°	991.7	993.4	995.1	996.8	998.5	999.7	1000.6	1001.4	1002.3	1003.1	1006.2
27.5°	956.8	959.3	961.8	964.2	966.7	968.6	969.9	971.2	972.5	973.8	976.6
30°	933.5	935.8	938.0	940.3	942.5	944.7	946.6	948.6	950.5	952.5	955.6
32.5°	908.2	910.9	913.6	916.3	919.0	921.5	923.7	925.9	928.0	930.3	933.8
35°	867.8	871.2	874.5	877.9	881.2	884.3	887.2	889.9	892.8	895.6	899.5
37.5°	827.0	830.9	834.8	838.7	842.6	846.2	849.7	853.2	856.7	860.2	864.2
40°	800.7	804.4	808.0	811.7	815.3	819.1	823.1	827.0	830.9	834.9	839.1
42.5°	770.4	774.4	778.6	782.7	786.8	791.2	795.7	800.3	804.9	809.6	814.3
45°	723.6	728.9	734.3	739.6	744.9	750.3	755.6	761.0	766.3	771.7	776.4
47.5°	678.7	684.3	689.8	695.3	700.8	706.7	712.9	719.1	725.2	731.4	736.3
50°	646.4	652.6	658.8	665.0	671.1	677.3	683.5	689.7	695.9	702.0	707.7
52.5°	614.0	620.2	626.4	632.6	638.7	645.4	652.4	659.6	666.6	673.8	679.4
55°	566.7	572.6	578.5	584.4	590.3	597.5	605.9	614.3	622.8	631.2	636.8
57.5°	513.8	521.2	528.5	535.8	543.0	550.9	559.3	567.7	576.1	584.4	591.1
60°	479.4	486.7	494.0	501.4	508.7	517.0	526.2	535.5	544.8	554.1	560.5
62.5°	446.0	454.0	462.0	470.0	477.9	486.6	495.9	505.2	514.4	523.7	530.1
65°	392.1	401.2	410.1	419.1	428.1	437.4	446.9	456.5	466.0	475.6	482.7
67.5°	340.2	349.8	359.4	368.9	378.5	388.4	398.6	408.8	419.1	429.4	436.5
70°	304.8	314.4	324.0	333.5	343.1	353.2	363.8	374.5	385.2	395.9	403.5
72.5°	270.5	280.2	290.0	299.8	309.6	320.1	331.5	342.9	354.2	365.6	373.0
75°	217.6	228.0	238.4	248.7	259.2	270.3	282.1	293.9	305.7	317.5	325.3
77.5°	168.3	179.3	190.3	201.3	212.3	224.0	236.4	248.7	261.1	273.5	281.5
80°	137.9	149.1	160.3	171.6	182.8	194.6	207.0	219.4	231.8	244.2	252.5
82.5°	107.5	119.2	130.9	142.6	154.3	166.4	178.7	191.1	203.4	215.8	224.4
85°	67.0	78.8	90.6	102.4	114.2	126.5	139.1	151.8	164.5	177.1	185.5
87.5°	37.6	49.3	60.9	72.6	84.2	96.3	108.7	121.1	133.6	146.0	154.3
90°	21.3	33.4	45.6	57.7	69.8	82.2	95.0	107.7	120.4	133.2	141.7
92.5°	26.9	38.0	49.2	60.3	71.4	83.3	95.8	108.3	120.8	133.4	141.6
95°	37.9	48.0	58.0	68.0	78.0	89.0	101.1	113.2	125.2	137.4	145.1
97.5°	52.5	61.1	69.6	78.2	86.7	97.1	109.2	121.2	133.3	145.4	153.0
100°	64.2	71.8	79.5	87.1	94.7	104.3	116.1	127.7	139.3	151.1	158.8
102.5°	77.4	83.9	90.5	97.0	103.5	112.5	123.9	135.3	146.6	158.0	165.6
105°	95.1	100.8	106.4	112.1	117.8	126.0	136.7	147.5	158.2	168.9	176.2
107.5°	116.0	120.6	125.3	130.1	134.8	142.0	151.9	161.8	171.7	181.6	188.8
110°	129.3	133.4	137.5	141.6	145.7	152.6	162.4	172.1	181.9	191.6	198.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	143.2	146.7	150.3	153.8	157.3	163.7	172.9	182.1	191.4	200.7	206.8
115°	164.1	166.6	169.1	171.7	174.2	179.9	188.8	197.6	206.4	215.2	221.3
117.5°	185.0	186.6	188.1	189.7	191.3	196.2	204.5	212.7	221.0	229.3	234.8
120°	198.0	199.2	200.3	201.5	202.6	207.2	215.1	223.0	230.9	238.8	244.1
122.5°	212.6	212.9	213.3	213.6	213.8	217.8	225.4	233.0	240.6	248.2	253.5
125°	233.0	232.7	232.4	232.2	231.9	235.2	242.2	249.1	256.0	263.0	268.2
127.5°	252.4	252.3	252.2	252.2	252.2	254.8	260.1	265.3	270.6	275.9	280.7
130°	265.1	265.1	265.1	265.0	265.0	267.2	271.7	276.2	280.7	285.2	290.1
132.5°	279.2	279.1	279.0	278.8	278.8	280.5	284.0	287.6	291.1	294.6	299.3
135°	296.5	297.0	297.5	297.9	298.4	299.7	301.7	303.6	305.5	307.5	311.9
137.5°	316.8	316.7	316.6	316.6	316.6	317.0	318.1	319.2	320.3	321.4	325.3
140°	330.3	330.2	330.0	329.9	329.8	329.9	330.2	330.4	330.7	331.0	334.5
142.5°	341.6	341.7	341.8	341.9	342.0	342.0	341.7	341.5	341.3	341.0	344.2
145°	358.5	358.5	358.5	358.5	358.6	358.6	358.7	358.8	358.9	358.9	360.6
147.5°	375.4	375.5	375.6	375.7	375.8	375.8	375.7	375.7	375.7	375.6	375.7
150°	385.7	385.8	385.8	385.9	385.9	385.9	385.9	385.9	385.9	385.9	385.9
152.5°	394.5	394.6	394.7	394.9	395.0	395.1	395.1	395.2	395.3	395.4	395.5
155°	409.2	409.2	409.2	409.2	409.2	409.2	409.1	409.0	408.9	408.8	409.2
157.5°	421.8	421.7	421.6	421.4	421.3	421.2	421.2	421.2	421.1	421.1	421.4
160°	429.4	429.3	429.2	429.1	429.0	429.0	428.9	428.8	428.7	428.6	428.9
162.5°	436.3	436.0	435.8	435.6	435.4	435.2	435.1	435.1	435.0	434.9	435.4
165°	445.4	445.2	445.0	444.7	444.5	444.3	444.2	444.0	443.9	443.7	444.2
167.5°	452.6	452.3	451.9	451.6	451.2	451.1	451.1	451.1	451.1	451.1	451.6
170°	456.6	456.2	455.8	455.4	455.0	454.9	455.0	455.0	455.1	455.2	455.7
172.5°	459.5	459.1	458.8	458.5	458.1	458.0	458.0	458.0	458.0	458.0	458.6
175°	463.4	463.0	462.6	462.2	461.8	461.6	461.5	461.4	461.4	461.3	461.8
177.5°	464.7	464.4	464.1	463.7	463.4	463.3	463.3	463.3	463.3	463.3	463.7
180°	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7
2.5°	1125.7	1127.3	1128.9	1129.5	1129.3	1129.0	1128.9	1128.6
5°	1122.8	1125.0	1127.2	1128.2	1127.9	1127.7	1127.4	1127.1
7.5°	1116.7	1119.3	1121.8	1122.9	1122.6	1122.4	1122.0	1121.8
10°	1110.6	1113.2	1115.7	1116.8	1116.6	1116.3	1115.9	1115.7
12.5°	1102.1	1104.4	1106.7	1107.9	1107.8	1107.7	1107.6	1107.6
15°	1086.6	1089.2	1091.6	1092.8	1092.5	1092.3	1091.9	1091.6
17.5°	1067.8	1070.3	1072.9	1074.1	1073.9	1073.6	1073.4	1073.2
20°	1053.0	1055.8	1058.7	1060.0	1060.0	1060.0	1060.0	1060.0
22.5°	1035.8	1038.6	1041.4	1043.1	1043.5	1043.9	1044.4	1044.9
25°	1009.3	1012.4	1015.5	1017.2	1017.5	1017.7	1018.0	1018.3
27.5°	979.5	982.4	985.2	986.8	987.2	987.5	987.9	988.2
30°	958.7	961.8	964.9	966.7	967.3	967.8	968.4	969.0
32.5°	937.3	940.9	944.4	946.5	947.1	947.6	948.2	948.7
35°	903.5	907.4	911.3	913.7	914.6	915.4	916.2	917.1
37.5°	868.2	872.1	876.2	878.6	879.5	880.4	881.3	882.2
40°	843.3	847.6	851.8	854.4	855.6	856.7	857.8	858.9
42.5°	818.9	823.6	828.2	831.0	831.9	832.8	833.7	834.6
45°	781.2	786.0	790.8	793.8	795.3	796.6	798.0	799.5
47.5°	741.3	746.2	751.2	754.5	756.2	757.9	759.5	761.3
50°	713.3	718.9	724.5	728.2	729.9	731.6	733.2	734.9
52.5°	685.0	690.6	696.2	699.9	701.6	703.2	704.9	706.6
55°	642.5	648.1	653.7	657.4	659.0	660.8	662.4	664.1
57.5°	597.8	604.5	611.2	615.3	616.9	618.5	620.0	621.6
60°	567.0	573.5	579.9	584.2	586.5	588.7	591.0	593.3
62.5°	536.6	543.1	549.5	553.9	556.2	558.4	560.6	562.9
65°	489.6	496.7	503.7	508.3	510.6	512.9	515.2	517.4
67.5°	443.6	450.8	457.9	462.6	464.8	466.9	469.1	471.3
70°	411.1	418.7	426.3	431.1	433.0	435.0	437.0	438.9
72.5°	380.3	387.7	395.1	399.8	402.0	404.2	406.4	408.6
75°	333.3	341.1	349.0	354.2	356.7	359.3	361.8	364.3
77.5°	289.5	297.5	305.4	310.8	313.5	316.2	318.9	321.5
80°	261.0	269.4	277.9	283.2	285.4	287.7	289.9	292.2
82.5°	233.1	241.8	250.4	256.0	258.5	260.9	263.4	265.9
85°	193.9	202.4	210.8	216.4	219.3	222.0	224.9	227.7
87.5°	162.6	170.8	179.0	184.4	186.9	189.4	191.9	194.4
90°	150.4	159.0	167.6	173.2	175.5	178.0	180.4	182.8
92.5°	149.8	158.0	166.2	171.5	173.9	176.2	178.6	180.9
95°	153.0	160.8	168.7	173.8	176.3	178.9	181.4	183.9
97.5°	160.7	168.3	175.9	181.0	183.4	185.8	188.2	190.7
100°	166.6	174.3	182.0	187.0	188.9	190.8	192.8	194.8
102.5°	173.3	180.9	188.4	193.4	195.6	197.9	200.1	202.3
105°	183.5	190.8	198.0	202.9	205.3	207.9	210.3	212.9
107.5°	195.9	203.0	210.2	214.8	216.7	218.7	220.8	222.8
110°	204.2	210.6	216.9	221.3	223.7	226.2	228.7	231.2



TEST NUMBER: P332838-927

CATALOG NUMBER: S124DIW-S1195D470U927-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	213.1	219.3	225.5	229.7	232.0	234.3	236.6	238.9
115°	227.4	233.5	239.6	243.7	245.6	247.4	249.3	251.2
117.5°	240.4	246.0	251.6	255.4	257.5	259.6	261.7	263.8
120°	249.3	254.5	259.8	263.6	265.9	268.4	270.8	273.2
122.5°	258.9	264.2	269.6	273.1	274.8	276.6	278.3	280.0
125°	273.4	278.5	283.8	287.1	288.6	290.2	291.7	293.2
127.5°	285.7	290.6	295.5	298.8	300.6	302.4	304.2	305.9
130°	295.0	299.8	304.8	307.9	309.3	310.6	312.0	313.4
132.5°	304.0	308.6	313.3	316.5	318.0	319.6	321.2	322.7
135°	316.2	320.5	324.9	327.8	329.2	330.7	332.1	333.6
137.5°	329.2	333.1	337.0	339.7	341.1	342.5	344.0	345.5
140°	338.1	341.7	345.3	347.8	349.0	350.4	351.7	353.1
142.5°	347.4	350.6	353.8	355.9	357.1	358.3	359.4	360.6
145°	362.2	363.8	365.4	366.6	367.5	368.4	369.3	370.2
147.5°	375.9	376.0	376.2	376.7	377.5	378.3	379.1	379.9
150°	385.9	385.9	385.9	385.9	385.8	385.7	385.6	385.6
152.5°	395.8	395.9	396.2	396.1	395.9	395.7	395.5	395.3
155°	409.5	409.8	410.1	410.1	409.8	409.5	409.2	408.8
157.5°	421.6	421.8	422.1	422.1	421.8	421.5	421.3	421.0
160°	429.1	429.4	429.6	429.5	429.1	428.7	428.3	427.9
162.5°	435.8	436.3	436.7	436.7	436.3	435.9	435.5	435.1
165°	444.7	445.1	445.6	445.7	445.4	445.0	444.7	444.4
167.5°	452.1	452.6	453.0	453.0	452.6	452.1	451.5	451.1
170°	456.1	456.6	457.1	457.0	456.5	455.9	455.3	454.8
172.5°	459.1	459.7	460.2	460.2	459.6	459.1	458.5	458.0
175°	462.4	463.0	463.5	463.5	463.0	462.4	461.8	461.3
177.5°	464.2	464.6	465.1	465.0	464.5	464.1	463.5	463.0
180°	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1

(END OF REPORT)