

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: P332675-830

Luminaire Tested: **S124DIP-S1195D365U830-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332675-830
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-S1195D365U830-4F0-1E-UDD-D4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 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: 5815.7 lumens
Efficiency: N/A
Efficacy: 116.8 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

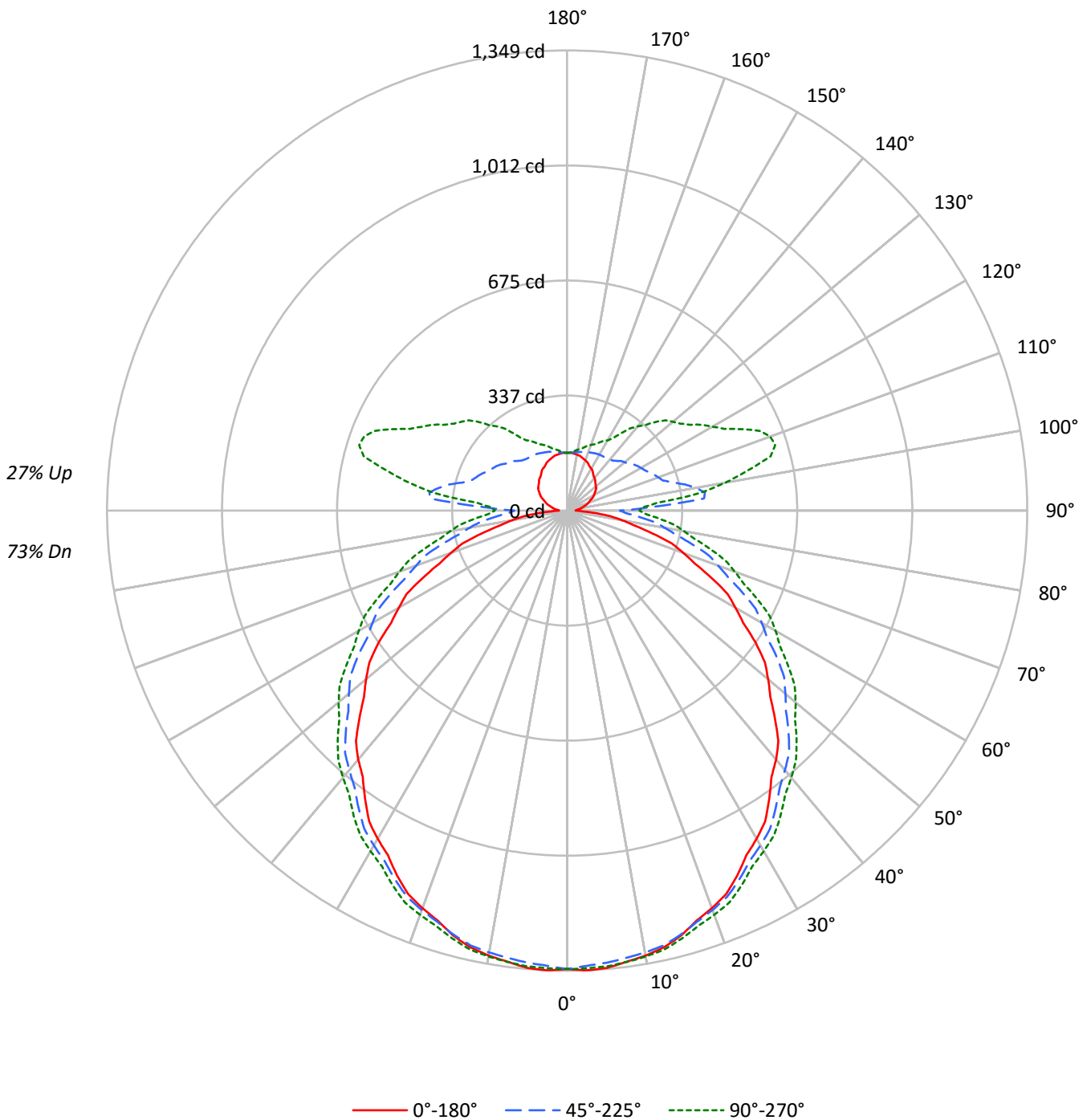
Input Watts (W): 49.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	113	113	113	113	107	107	107	107	96	96	96	86	86	86	77	77	77	73
1	101	96	92	88	96	91	87	84	82	79	76	74	71	69	66	64	62	58
2	92	83	76	70	87	79	73	67	71	66	62	64	60	56	57	54	51	48
3	83	73	65	58	79	69	62	56	62	56	51	56	51	47	50	46	43	40
4	76	64	55	49	72	61	53	47	55	49	43	50	44	40	44	40	37	34
5	70	57	48	42	66	54	46	40	49	42	37	44	39	34	40	35	32	29
6	64	51	42	36	61	49	41	35	44	37	32	40	34	30	36	31	28	25
7	59	46	38	32	56	44	36	31	40	33	28	36	31	26	33	28	24	22
8	55	42	34	28	52	40	32	27	37	30	25	33	28	24	30	25	22	20
9	51	38	30	25	49	37	29	24	34	27	23	31	25	21	28	23	20	18
10	48	35	28	22	46	34	27	22	31	25	20	28	23	19	26	21	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10851	10851	10851
5°	10884	10604	10635
10°	10818	10431	10423
15°	10721	10231	10174
20°	10574	10009	9931
25°	10410	9760	9665
30°	10231	9513	9392
35°	10029	9259	9152
40°	9868	9019	8902
45°	9628	8797	8688
50°	9425	8541	8461
55°	9216	8300	8195
60°	8889	7992	7953
65°	8532	7663	7655
70°	8098	7286	7308
75°	7493	6872	6995
80°	6823	6474	6686
85°	5963	6123	6505



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	127.3	2.2
10°-20°	364.7	6.3
20°-30°	551.4	9.5
30°-40°	667.1	11.5
40°-50°	705.3	12.1
50°-60°	663.8	11.4
60°-70°	550.7	9.5
70°-80°	386.8	6.7
80°-90°	219.6	3.8
90°-100°	252.3	4.3
100°-110°	351.0	6.0
110°-120°	292.8	5.0
120°-130°	228.4	3.9
130°-140°	175.9	3.0
140°-150°	125.5	2.2
150°-160°	86.0	1.5
160°-170°	50.6	0.9
170°-180°	16.5	0.3
0°-30°	1043.3	17.9
0°-40°	1710.5	29.4
0°-60°	3079.5	53.0
0°-90°	4236.7	72.8
90°-120°	896.2	15.4
90°-150°	1425.9	24.5
90°-180°	1579.0	27.2
0°-180°	5815.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1344	1344	1344	1344	1344	
5°	1346	1341	1330	1342	1341	128
15°	1290	1291	1287	1300	1299	363
25°	1180	1189	1194	1209	1212	543
35°	1032	1050	1066	1086	1091	646
45°	861	890	918	943	951	665
55°	674	707	751	780	790	601
65°	467	515	566	602	616	462
75°	259	315	378	418	434	275
85°	80	143	211	254	271	85
90°	24	87	155	198	212	16
95°	30	104	402	304	266	28
105°	52	102	318	606	618	57
115°	78	111	266	477	564	78
125°	102	120	236	388	439	91
135°	117	139	206	320	368	91
145°	132	150	191	247	277	83
155°	149	161	186	210	220	69
165°	162	167	178	189	192	46
175°	169	170	171	173	173	16
180°	170	170	170	170	170	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1
2.5°	1348.9	1348.0	1347.3	1346.4	1345.7	1344.2	1342.0	1339.9	1337.8	1335.6	1337.5
5°	1345.5	1344.5	1343.5	1342.6	1341.5	1339.8	1337.5	1335.1	1332.8	1330.5	1333.1
7.5°	1334.1	1333.5	1332.8	1332.3	1331.7	1330.4	1328.5	1326.5	1324.6	1322.7	1325.7
10°	1324.5	1324.1	1323.8	1323.4	1323.1	1322.1	1320.4	1318.8	1317.1	1315.4	1318.4
12.5°	1311.2	1311.2	1311.1	1311.0	1311.0	1310.3	1309.2	1308.1	1306.9	1305.8	1308.5
15°	1289.9	1290.2	1290.5	1290.8	1291.2	1290.8	1289.9	1288.8	1287.8	1286.9	1289.9
17.5°	1260.7	1261.7	1262.6	1263.7	1264.6	1265.1	1264.9	1264.6	1264.4	1264.2	1267.3
20°	1240.2	1241.1	1242.2	1243.2	1244.2	1244.8	1245.2	1245.6	1245.9	1246.2	1249.5
22.5°	1217.3	1218.5	1219.8	1221.1	1222.4	1223.3	1223.9	1224.6	1225.1	1225.7	1229.1
25°	1180.0	1181.9	1184.0	1186.0	1188.0	1189.5	1190.5	1191.5	1192.5	1193.5	1197.2
27.5°	1138.4	1141.4	1144.3	1147.3	1150.2	1152.4	1154.0	1155.6	1157.1	1158.6	1162.0
30°	1110.7	1113.4	1116.1	1118.8	1121.4	1124.0	1126.2	1128.6	1131.0	1133.3	1137.0
32.5°	1080.6	1083.8	1087.0	1090.2	1093.4	1096.4	1099.0	1101.6	1104.2	1106.8	1111.1
35°	1032.5	1036.5	1040.5	1044.5	1048.5	1052.2	1055.6	1058.9	1062.2	1065.5	1070.3
37.5°	984.0	988.6	993.3	997.9	1002.5	1006.8	1011.0	1015.1	1019.3	1023.4	1028.2
40°	952.7	957.1	961.4	965.7	970.1	974.6	979.3	984.0	988.6	993.3	998.3
42.5°	916.6	921.4	926.3	931.2	936.1	941.3	946.8	952.3	957.7	963.3	968.8
45°	860.9	867.2	873.6	880.0	886.3	892.7	899.0	905.4	911.7	918.1	923.8
47.5°	807.6	814.2	820.8	827.3	833.9	840.8	848.2	855.5	862.9	870.2	876.1
50°	769.1	776.5	783.8	791.2	798.5	805.9	813.2	820.6	827.9	835.3	842.0
52.5°	730.6	737.9	745.3	752.6	760.0	767.9	776.3	784.8	793.1	801.6	808.3
55°	674.3	681.3	688.3	695.3	702.4	710.9	721.0	730.9	741.0	751.0	757.7
57.5°	611.3	620.1	628.8	637.4	646.1	655.4	665.4	675.4	685.4	695.3	703.3
60°	570.4	579.1	587.8	596.5	605.2	615.1	626.1	637.2	648.2	659.2	666.9
62.5°	530.7	540.2	549.7	559.2	568.6	578.9	590.0	601.1	612.1	623.1	630.7
65°	466.6	477.3	488.0	498.7	509.3	520.4	531.8	543.2	554.5	565.9	574.3
67.5°	404.8	416.2	427.6	438.9	450.3	462.1	474.3	486.4	498.6	510.9	519.3
70°	362.7	374.1	385.5	396.8	408.2	420.3	432.9	445.6	458.4	471.1	480.1
72.5°	321.8	333.4	345.1	356.7	368.3	380.9	394.5	407.9	421.4	435.0	443.7
75°	258.9	271.3	283.6	296.0	308.4	321.6	335.6	349.7	363.7	377.8	387.1
77.5°	200.2	213.3	226.4	239.5	252.6	266.6	281.3	296.0	310.7	325.4	334.9
80°	164.1	177.4	190.8	204.2	217.5	231.6	246.3	261.1	275.8	290.5	300.5
82.5°	127.9	141.9	155.8	169.7	183.6	197.9	212.6	227.3	242.0	256.7	267.0
85°	79.7	93.8	107.8	121.9	135.9	150.5	165.5	180.6	195.7	210.8	220.7
87.5°	44.6	58.4	72.2	86.0	99.6	113.9	128.8	143.5	158.3	173.1	182.7
90°	24.4	38.5	52.9	66.5	80.3	94.2	110.6	124.9	140.0	155.0	164.4
92.5°	26.7	40.4	55.6	71.7	88.6	108.8	140.1	180.3	219.9	247.4	239.2
95°	30.5	42.6	56.9	72.3	91.3	117.7	160.4	228.8	322.1	402.5	419.1
97.5°	37.5	46.9	59.4	72.9	89.2	112.4	148.4	207.1	299.7	407.6	481.1
100°	41.8	50.6	61.6	74.3	89.4	110.8	143.5	194.3	275.2	382.2	476.5
102.5°	47.2	55.3	65.0	76.4	90.1	110.5	141.0	186.9	257.5	353.5	450.3
105°	52.5	60.2	68.5	79.3	91.9	111.1	139.5	179.6	238.6	317.8	404.5
107.5°	61.5	67.6	74.7	84.5	95.7	113.8	140.2	177.0	228.6	294.2	366.4
110°	66.4	71.7	78.0	86.7	97.4	114.6	140.9	176.0	224.3	284.4	346.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	71.0	75.8	81.9	89.7	99.9	116.6	141.9	175.0	220.5	275.9	331.8
115°	77.7	81.6	87.0	93.3	102.6	118.6	142.6	173.2	214.9	265.6	314.9
117.5°	86.1	88.9	92.7	98.2	105.9	121.2	143.8	172.2	209.9	256.3	302.1
120°	90.8	92.5	95.9	100.5	107.2	121.8	144.2	171.2	206.5	250.2	293.9
122.5°	96.1	97.0	99.5	103.1	109.5	123.3	145.1	170.5	203.5	243.9	285.8
125°	101.6	102.6	104.2	107.6	113.6	127.0	147.3	171.0	200.4	236.0	274.4
127.5°	107.5	108.3	110.3	114.1	120.5	132.9	150.9	171.4	196.1	226.2	260.2
130°	109.8	110.7	113.1	117.8	123.8	135.9	152.6	171.0	193.3	220.0	251.3
132.5°	113.2	114.0	117.1	121.5	128.0	139.1	154.8	171.7	191.4	214.9	243.6
135°	116.6	117.9	121.3	127.0	133.9	143.7	157.1	171.4	187.5	205.8	230.5
137.5°	121.5	122.4	125.7	130.8	137.7	146.4	157.8	170.1	183.3	198.8	219.6
140°	124.9	125.6	128.9	134.2	140.9	148.9	159.2	170.2	181.9	194.9	213.6
142.5°	127.4	128.4	131.8	137.0	143.7	151.3	160.8	170.5	181.1	192.5	209.1
145°	132.4	133.1	136.1	140.4	146.4	153.5	162.2	171.3	180.9	191.2	203.9
147.5°	138.4	138.4	140.9	145.4	150.3	156.7	164.9	172.8	181.3	190.0	199.6
150°	142.0	142.0	144.4	148.1	152.7	158.9	166.3	173.5	181.3	189.2	197.6
152.5°	144.3	144.3	146.9	150.6	155.0	160.8	167.3	174.1	180.7	187.8	195.4
155°	148.9	149.2	151.3	154.6	158.3	163.2	168.9	174.6	179.9	185.9	192.2
157.5°	153.6	153.6	155.5	158.1	161.3	165.2	170.0	174.6	179.0	183.8	189.0
160°	156.6	156.6	157.9	160.2	162.9	166.5	170.6	174.6	178.2	182.2	186.5
162.5°	159.2	159.0	160.0	162.1	164.5	167.4	171.1	174.6	177.4	180.6	184.5
165°	162.2	162.2	162.9	164.6	166.3	168.2	171.3	173.9	175.9	178.2	180.9
167.5°	165.2	164.9	165.2	166.5	167.4	169.0	171.2	173.1	174.3	175.8	177.7
170°	166.5	166.3	166.5	167.6	168.2	169.2	170.9	172.6	173.2	174.2	175.6
172.5°	167.9	167.6	167.6	168.3	168.7	169.5	170.6	172.0	172.2	172.6	173.7
175°	169.2	168.9	168.9	169.2	169.6	169.6	170.2	171.3	170.9	170.9	171.5
177.5°	169.8	169.6	169.3	169.6	169.6	169.6	169.8	170.3	169.8	169.8	170.1
180°	169.6	169.6	169.6	169.6	169.6	169.6	169.6	169.6	169.6	169.6	169.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1
2.5°	1339.4	1341.2	1343.1	1343.9	1343.6	1343.3	1343.1	1342.8
5°	1335.9	1338.5	1341.1	1342.4	1342.0	1341.7	1341.3	1341.0
7.5°	1328.7	1331.7	1334.7	1336.1	1335.7	1335.4	1335.0	1334.7
10°	1321.4	1324.5	1327.5	1328.8	1328.5	1328.1	1327.8	1327.5
12.5°	1311.3	1314.0	1316.7	1318.1	1318.1	1318.0	1317.9	1317.9
15°	1292.9	1295.9	1298.8	1300.2	1299.9	1299.6	1299.2	1298.8
17.5°	1270.5	1273.5	1276.6	1278.0	1277.7	1277.4	1277.1	1276.9
20°	1252.9	1256.2	1259.6	1261.2	1261.2	1261.2	1261.2	1261.2
22.5°	1232.4	1235.8	1239.1	1241.0	1241.6	1242.1	1242.6	1243.2
25°	1200.9	1204.6	1208.2	1210.2	1210.6	1210.9	1211.3	1211.5
27.5°	1165.5	1168.8	1172.2	1174.1	1174.6	1175.0	1175.4	1175.7
30°	1140.7	1144.3	1148.0	1150.2	1150.8	1151.5	1152.2	1152.9
32.5°	1115.2	1119.5	1123.7	1126.1	1126.8	1127.5	1128.1	1128.8
35°	1075.0	1079.6	1084.3	1087.1	1088.2	1089.2	1090.1	1091.2
37.5°	1032.9	1037.6	1042.5	1045.4	1046.4	1047.4	1048.6	1049.6
40°	1003.3	1008.4	1013.4	1016.6	1017.9	1019.3	1020.6	1021.9
42.5°	974.3	979.9	985.4	988.7	989.9	990.9	991.9	993.1
45°	929.4	935.2	940.8	944.5	946.2	947.8	949.5	951.2
47.5°	882.0	887.9	893.8	897.7	899.8	901.7	903.7	905.8
50°	848.7	855.4	862.0	866.4	868.5	870.4	872.4	874.4
52.5°	815.0	821.7	828.3	832.7	834.7	836.7	838.7	840.7
55°	764.4	771.1	777.8	782.1	784.1	786.2	788.2	790.1
57.5°	711.2	719.3	727.2	732.1	734.0	735.8	737.7	739.6
60°	674.6	682.3	689.9	695.1	697.9	700.5	703.2	705.9
62.5°	638.5	646.2	653.8	659.0	661.8	664.4	667.0	669.8
65°	582.6	591.0	599.4	604.8	607.6	610.2	612.9	615.6
67.5°	527.8	536.3	544.8	550.4	553.0	555.5	558.2	560.8
70°	489.2	498.1	507.2	512.9	515.2	517.6	519.9	522.3
72.5°	452.5	461.3	470.0	475.7	478.3	480.9	483.5	486.2
75°	396.5	405.9	415.2	421.4	424.4	427.4	430.5	433.5
77.5°	344.4	353.9	363.4	369.8	373.0	376.2	379.4	382.6
80°	310.6	320.6	330.6	337.0	339.6	342.3	345.0	347.7
82.5°	277.4	287.7	297.9	304.6	307.6	310.5	313.4	316.3
85°	230.7	240.8	250.8	257.5	260.9	264.2	267.6	270.9
87.5°	192.5	202.3	212.0	218.3	221.3	224.3	227.2	230.2
90°	174.4	184.5	194.4	200.7	203.7	206.7	209.0	211.7
92.5°	226.0	219.3	218.7	218.1	216.8	217.7	219.2	221.9
95°	395.9	353.3	317.6	291.3	278.1	270.7	267.7	266.4
97.5°	503.8	493.4	469.6	440.6	419.6	402.4	395.3	391.2
100°	534.2	549.9	542.6	523.6	497.0	479.0	471.4	471.0
102.5°	525.8	567.6	581.1	576.5	561.3	549.2	541.3	541.8
105°	489.2	555.2	596.4	615.7	619.0	619.0	617.0	617.7
107.5°	442.1	511.7	566.4	601.4	620.3	630.3	636.0	639.2
110°	413.3	478.6	534.6	576.5	602.8	619.4	628.1	633.8



TEST NUMBER: P332675-830

CATALOG NUMBER: S124DIP-S1195D365U830-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	389.9	448.4	501.4	543.1	572.6	592.2	603.3	610.9
115°	363.9	412.3	458.6	495.4	524.1	546.4	559.4	564.4
117.5°	345.8	386.7	424.3	456.3	481.4	500.9	514.3	519.1
120°	335.5	373.2	406.6	434.9	456.6	473.9	485.2	491.5
122.5°	326.3	363.0	393.9	419.1	437.6	452.5	462.3	468.3
125°	312.6	347.7	377.0	399.5	414.9	426.5	434.9	438.8
127.5°	296.3	329.7	358.6	380.2	395.9	406.7	414.3	418.6
130°	284.9	317.4	346.0	367.7	383.3	393.6	401.0	405.0
132.5°	274.0	304.5	332.3	353.9	369.3	380.7	387.8	391.8
135°	256.7	283.8	309.4	329.8	345.1	356.5	363.8	367.8
137.5°	242.0	265.1	287.1	305.5	319.6	330.5	336.5	340.6
140°	233.2	253.3	272.6	289.5	302.9	311.9	318.2	322.5
142.5°	226.0	243.6	260.3	275.0	286.7	294.9	300.5	303.8
145°	216.5	229.9	241.9	252.9	262.5	269.6	274.2	277.2
147.5°	208.8	218.0	226.3	234.2	241.5	247.4	251.0	252.7
150°	205.6	213.2	219.9	225.8	231.2	235.5	237.5	237.8
152.5°	202.6	209.2	215.4	220.3	224.8	228.3	229.5	229.9
155°	198.2	203.5	208.5	212.5	215.8	218.5	219.5	219.5
157.5°	193.5	197.9	202.2	205.4	207.8	209.9	210.5	210.5
160°	190.6	194.2	197.8	200.6	202.6	204.5	204.9	204.9
162.5°	187.7	190.8	193.6	196.0	197.5	199.4	199.8	199.5
165°	183.5	185.6	187.8	189.5	190.9	192.2	191.9	191.5
167.5°	179.6	181.2	183.0	184.0	184.6	185.6	185.5	185.2
170°	177.2	178.2	179.6	180.6	181.3	181.5	181.3	181.3
172.5°	175.1	175.8	176.6	177.4	177.8	178.0	177.8	177.2
175°	172.2	172.6	173.2	173.2	173.2	173.9	173.2	172.6
177.5°	170.3	170.6	170.6	170.9	170.6	170.9	170.3	169.8
180°	169.6	169.6	169.6	169.6	169.6	169.6	169.6	169.6

(END OF REPORT)