

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: P332305-840

Luminaire Tested: **S123RDIP-S775D365U840-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332305-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIP-S775D365U840-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4273.1 lumens
Efficiency: N/A
Efficacy: 122.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Direct

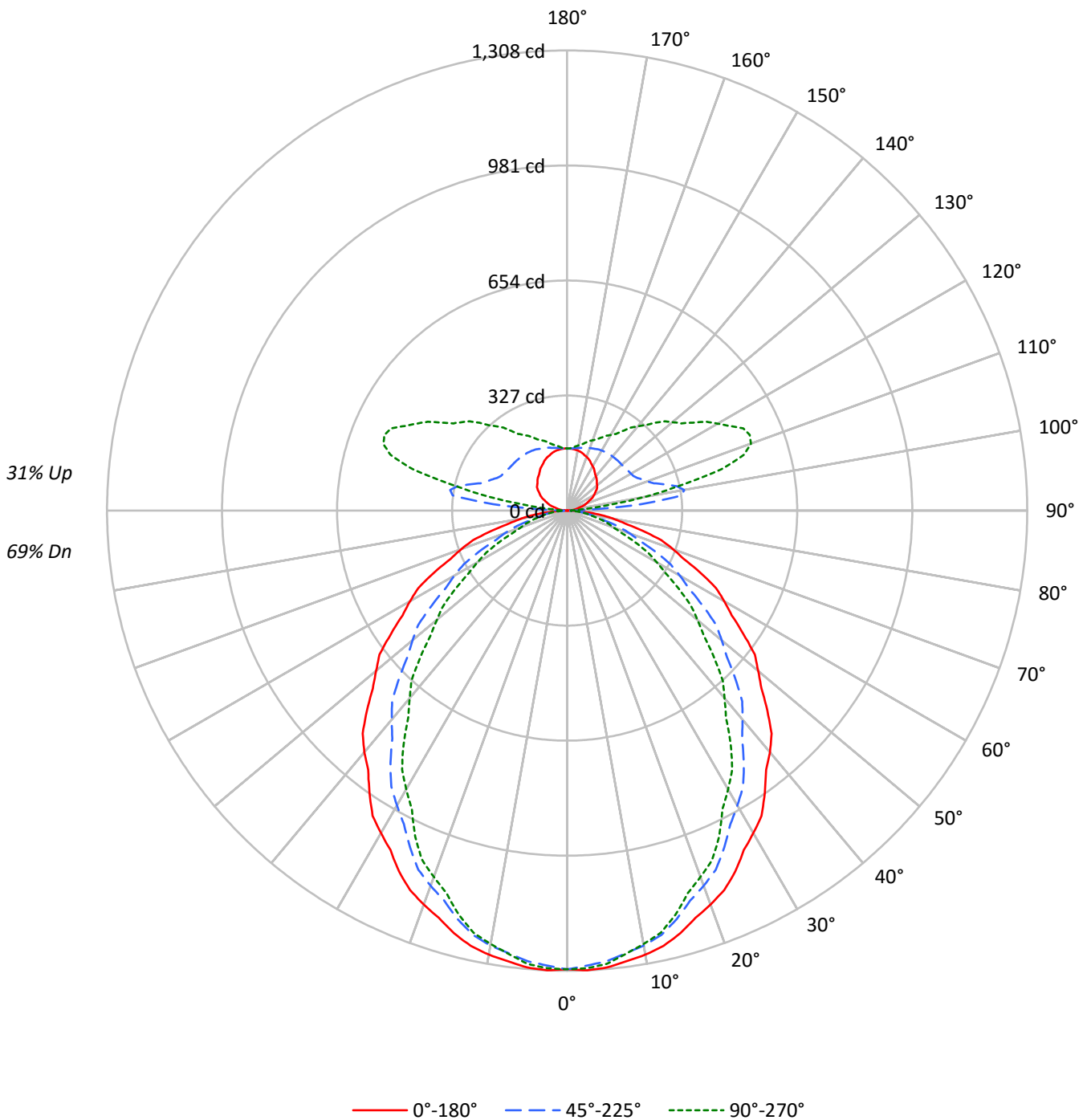
Input Watts (W): 35
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	112	112	112	112	105	105	105	105	94	94	94	83	83	83	74	74	74
1	102	98	94	91	97	93	90	87	83	81	78	74	72	70	66	64	63
2	94	86	80	75	88	82	76	72	73	69	66	66	62	60	58	56	54
3	86	76	69	63	81	72	66	61	65	60	56	58	54	51	52	49	46
4	79	68	60	54	74	65	57	52	58	52	48	52	48	44	47	43	40
5	73	61	53	47	68	58	50	45	52	46	42	47	42	38	42	38	35
6	67	55	47	41	63	52	45	39	47	41	37	43	38	34	39	35	31
7	62	50	42	36	59	47	40	35	43	37	33	39	34	30	35	31	28
8	58	45	37	32	55	43	36	31	40	33	29	36	31	27	33	28	25
9	54	42	34	29	51	40	33	28	36	30	26	33	28	25	30	26	23
10	51	38	31	26	48	37	30	25	34	28	24	31	26	22	28	24	21

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14034	14034	14034
5°	14088	13894	13973
10°	14008	13719	13672
15°	13857	13397	13256
20°	13651	12997	12693
25°	13438	12545	12144
30°	13155	12026	11368
35°	12867	11506	10657
40°	12600	10891	9777
45°	12250	10286	8983
50°	11863	9597	8092
55°	11470	8811	7263
60°	11108	7967	6351
65°	10639	7055	5440
70°	10049	5923	4393
75°	9191	4662	4134
80°	8195	4135	3800
85°	6916	3656	3396



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.4	2.9
10°-20°	340.6	8.0
20°-30°	490.5	11.5
30°-40°	552.5	12.9
40°-50°	528.6	12.4
50°-60°	432.9	10.1
60°-70°	292.0	6.8
70°-80°	146.9	3.4
80°-90°	40.2	0.9
90°-100°	98.1	2.3
100°-110°	277.8	6.5
110°-120°	273.3	6.4
120°-130°	218.0	5.1
130°-140°	171.9	4.0
140°-150°	128.3	3.0
150°-160°	89.4	2.1
160°-170°	52.5	1.2
170°-180°	17.1	0.4
0°-30°	953.6	22.3
0°-40°	1506.1	35.2
0°-60°	2467.5	57.7
0°-90°	2946.7	69.0
90°-120°	649.2	15.2
90°-150°	1167.3	27.3
90°-180°	1326.0	31.0
0°-180°	4273.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1304	1304	1304	1304	1304	
5°	1304	1298	1286	1295	1293	124
15°	1244	1231	1202	1197	1190	350
25°	1132	1104	1056	1035	1022	520
35°	979	940	876	832	811	613
45°	805	755	676	617	590	621
55°	611	557	470	410	387	548
65°	418	358	277	227	214	413
75°	221	170	112	102	99	236
85°	56	34	30	28	28	63
90°	1	4	9	10	10	4
95°	12	39	212	62	41	13
105°	41	61	287	502	454	44
115°	73	91	219	481	552	72
125°	102	120	205	371	435	90
135°	119	142	202	306	353	92
145°	136	156	199	251	276	85
155°	154	167	193	219	229	71
165°	169	174	185	196	199	48
175°	176	176	177	180	180	17
180°	176	176	176	176	176	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8
2.5°	1308.0	1307.3	1306.5	1305.8	1305.0	1303.5	1301.2	1299.0	1296.8	1294.4	1296.6
5°	1303.8	1302.6	1301.4	1300.3	1299.1	1297.1	1294.2	1291.4	1288.6	1285.9	1287.9
7.5°	1291.7	1290.5	1289.2	1287.9	1286.7	1284.1	1280.5	1276.9	1273.2	1269.5	1270.7
10°	1281.6	1279.9	1278.3	1276.7	1275.0	1272.0	1267.8	1263.6	1259.4	1255.2	1255.4
12.5°	1267.2	1265.4	1263.5	1261.7	1259.9	1256.4	1251.2	1246.1	1240.8	1235.7	1235.6
15°	1243.5	1240.9	1238.3	1235.8	1233.1	1228.6	1222.0	1215.5	1208.8	1202.2	1201.1
17.5°	1213.7	1210.7	1207.7	1204.7	1201.6	1196.0	1187.6	1179.2	1170.8	1162.6	1160.0
20°	1191.7	1187.9	1184.2	1180.4	1176.7	1170.3	1161.3	1152.5	1143.6	1134.6	1131.6
22.5°	1167.2	1162.9	1158.5	1154.2	1149.8	1143.0	1133.5	1124.0	1114.5	1105.0	1101.2
25°	1131.5	1125.6	1119.6	1113.8	1107.9	1099.5	1088.7	1077.9	1067.1	1056.3	1051.4
27.5°	1088.0	1081.6	1075.1	1068.6	1062.2	1052.9	1040.9	1028.9	1016.7	1004.7	997.8
30°	1058.4	1051.4	1044.4	1037.3	1030.3	1020.2	1007.0	993.8	980.7	967.6	959.6
32.5°	1028.9	1020.9	1012.9	1004.9	996.9	985.9	972.0	958.2	944.2	930.3	921.6
35°	979.2	970.7	962.2	953.8	945.3	933.8	919.3	904.6	890.1	875.6	865.5
37.5°	928.9	919.4	910.0	900.6	891.2	878.8	863.2	847.7	832.1	816.6	805.1
40°	896.7	886.4	876.0	865.7	855.4	841.8	825.2	808.5	791.7	775.1	762.9
42.5°	860.3	850.0	839.6	829.3	819.0	805.2	787.9	770.6	753.5	736.2	722.9
45°	804.7	794.2	783.6	773.0	762.3	748.1	729.9	711.9	693.8	675.7	662.3
47.5°	749.1	737.5	725.9	714.3	702.7	687.8	669.7	651.6	633.5	615.4	600.9
50°	708.4	697.4	686.4	675.3	664.3	649.2	630.3	611.2	592.2	573.1	558.6
52.5°	672.1	660.1	648.1	636.1	624.2	608.7	589.9	571.1	552.2	533.3	518.3
55°	611.2	599.7	588.1	576.6	565.1	549.4	529.4	509.5	489.5	469.5	455.9
57.5°	554.9	542.4	529.9	517.3	504.7	488.5	468.4	448.3	428.2	408.2	395.3
60°	516.0	503.1	490.2	477.3	464.3	448.1	428.6	409.1	389.6	370.1	357.4
62.5°	477.1	464.1	451.2	438.3	425.5	409.2	389.7	370.2	350.7	331.1	319.2
65°	417.7	404.8	391.8	378.9	366.0	350.3	332.0	313.7	295.4	277.0	265.5
67.5°	358.3	345.2	332.1	319.0	306.0	290.6	273.1	255.5	237.9	220.4	211.8
70°	319.3	306.7	294.0	281.2	268.6	254.0	237.5	221.2	204.7	188.2	180.0
72.5°	280.4	267.9	255.4	242.9	230.5	216.7	201.8	186.8	171.9	156.9	150.2
75°	221.0	209.7	198.4	187.1	175.9	163.8	150.9	137.9	125.0	112.1	109.8
77.5°	166.8	156.6	146.4	136.2	126.0	116.8	108.5	100.2	91.9	83.5	82.3
80°	132.2	122.5	112.9	103.3	93.6	86.3	81.4	76.4	71.6	66.7	65.9
82.5°	99.2	90.9	82.5	74.2	65.9	60.6	58.3	55.9	53.7	51.4	50.7
85°	56.0	50.9	45.7	40.5	35.3	32.4	31.7	31.0	30.3	29.6	29.2
87.5°	20.4	18.5	16.6	14.7	12.8	11.9	12.1	12.3	12.5	12.8	12.5
90°	0.7	1.4	2.1	3.2	3.9	4.6	5.8	6.8	7.9	8.9	8.6
92.5°	4.4	6.6	9.6	12.3	15.3	20.6	30.0	45.3	60.4	54.8	41.4
95°	12.1	13.2	17.2	23.2	32.5	46.4	76.7	129.9	188.4	211.7	171.7
97.5°	20.7	21.0	24.1	29.4	38.6	53.6	82.6	142.5	240.1	328.0	350.8
100°	26.5	26.8	29.3	34.2	42.8	56.8	81.7	134.5	228.4	338.0	408.3
102.5°	32.4	33.0	35.2	40.0	47.7	60.5	82.9	127.6	211.3	319.4	411.1
105°	41.4	42.5	44.6	48.9	55.6	66.8	86.0	122.8	190.3	286.9	389.3
107.5°	51.0	52.0	54.1	58.3	64.6	74.9	91.9	122.4	176.8	258.2	351.2
110°	57.8	58.9	60.7	64.6	70.7	80.7	96.7	123.8	171.7	242.0	327.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	64.1	65.1	67.0	70.9	77.0	86.6	101.6	126.7	168.7	231.1	306.4
115°	73.1	74.6	76.7	80.3	86.3	96.0	109.6	131.3	167.7	219.4	281.2
117.5°	82.2	83.8	85.6	89.0	95.7	104.6	118.1	137.4	168.3	212.6	266.0
120°	88.5	89.6	91.4	94.9	101.7	110.6	123.5	142.0	169.6	209.4	258.0
122.5°	93.9	95.0	96.7	100.7	107.1	116.6	129.2	146.3	171.5	207.5	251.5
125°	101.7	102.4	104.5	108.5	115.2	124.9	137.4	153.1	174.5	204.8	243.1
127.5°	107.7	108.7	111.4	115.3	122.8	132.5	144.5	158.6	177.9	203.6	235.6
130°	111.4	112.4	115.6	119.9	127.4	137.0	148.9	162.4	180.3	202.7	231.6
132.5°	114.2	115.5	119.1	124.2	131.7	141.1	152.5	165.8	182.0	202.4	227.9
135°	119.2	120.6	124.5	129.9	137.4	147.0	158.0	170.3	184.5	202.0	223.1
137.5°	123.9	125.4	129.3	134.9	142.4	151.3	162.0	173.5	186.2	201.2	218.8
140°	127.0	128.9	132.4	138.1	145.2	154.2	164.5	175.2	187.3	201.0	216.2
142.5°	130.5	132.0	135.8	141.0	148.1	156.4	166.5	176.9	188.2	200.4	214.0
145°	135.9	137.0	140.3	145.6	151.7	159.9	169.2	178.7	188.7	199.4	210.9
147.5°	141.6	142.2	145.3	150.0	155.8	162.8	171.3	180.0	188.7	198.1	207.9
150°	145.2	145.6	148.5	153.1	158.0	164.5	172.7	180.3	188.7	197.0	205.9
152.5°	149.0	149.1	151.9	155.9	160.4	166.5	173.6	180.8	187.9	195.6	203.6
155°	154.5	154.5	156.6	160.3	164.2	169.2	175.2	181.0	187.0	193.1	200.2
157.5°	159.0	159.3	161.0	164.1	167.4	171.3	176.1	181.3	185.8	190.9	196.3
160°	162.4	162.4	163.8	166.6	169.2	172.7	177.0	181.3	185.2	189.1	193.8
162.5°	164.9	164.9	166.1	168.3	170.6	173.6	177.3	181.0	184.1	187.4	191.2
165°	168.7	168.4	169.2	171.0	172.4	174.9	177.7	180.3	182.4	184.9	187.7
167.5°	171.7	171.3	171.7	173.0	174.0	175.6	177.6	179.7	180.7	182.3	184.4
170°	173.4	172.7	173.1	174.1	174.9	175.6	177.3	178.7	179.6	180.6	182.4
172.5°	174.6	174.1	174.2	175.0	175.4	175.8	177.3	178.5	178.6	179.2	180.4
175°	175.9	175.6	175.2	175.9	175.9	176.3	177.0	177.7	177.3	177.3	178.0
177.5°	176.6	176.3	176.0	176.3	176.3	176.3	176.6	177.1	176.6	176.3	176.6
180°	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8
2.5°	1298.6	1300.7	1302.7	1303.6	1303.2	1302.8	1302.4	1302.1
5°	1290.0	1292.1	1294.2	1295.1	1294.6	1294.1	1293.6	1293.2
7.5°	1271.9	1273.0	1274.2	1274.4	1273.6	1272.8	1272.0	1271.2
10°	1255.7	1255.9	1256.1	1255.7	1254.5	1253.2	1252.1	1250.9
12.5°	1235.4	1235.3	1235.2	1234.4	1233.0	1231.6	1230.3	1228.9
15°	1199.9	1198.7	1197.6	1196.2	1194.6	1192.9	1191.2	1189.6
17.5°	1157.5	1155.1	1152.6	1150.1	1147.6	1145.2	1142.8	1140.3
20°	1128.5	1125.4	1122.4	1119.4	1116.6	1113.8	1111.0	1108.1
22.5°	1097.4	1093.6	1089.7	1086.5	1083.9	1081.3	1078.6	1076.0
25°	1046.5	1041.6	1036.6	1032.9	1030.3	1027.6	1025.1	1022.5
27.5°	991.0	984.2	977.3	971.9	968.0	964.0	960.1	956.1
30°	951.6	943.5	935.5	929.7	925.9	922.2	918.4	914.6
32.5°	912.8	904.1	895.3	889.0	885.0	881.1	877.2	873.2
35°	855.4	845.3	835.2	828.0	823.7	819.5	815.3	811.0
37.5°	793.6	782.1	770.6	762.3	757.1	751.8	746.7	741.4
40°	750.6	738.4	726.2	717.4	712.0	706.6	701.1	695.8
42.5°	709.4	696.1	682.8	673.7	668.8	664.0	659.1	654.3
45°	648.9	635.5	622.1	612.6	606.9	601.3	595.7	590.1
47.5°	586.2	571.7	557.1	547.3	542.3	537.2	532.3	527.3
50°	544.0	529.4	514.8	504.8	499.5	494.0	488.7	483.2
52.5°	503.1	488.0	472.8	462.8	458.0	453.1	448.3	443.4
55°	442.2	428.6	415.0	405.8	401.1	396.4	391.7	387.0
57.5°	382.4	369.5	356.7	348.2	344.3	340.2	336.2	332.2
60°	344.7	332.0	319.3	311.0	307.0	303.0	299.0	295.0
62.5°	307.3	295.4	283.5	275.4	271.1	267.0	262.9	258.6
65°	254.0	242.5	231.0	223.9	221.4	218.7	216.2	213.6
67.5°	203.2	194.6	185.9	180.3	177.5	174.7	172.0	169.2
70°	171.8	163.5	155.3	150.0	147.3	144.7	142.2	139.6
72.5°	143.5	136.7	130.1	126.1	125.0	124.0	122.9	121.8
75°	107.3	105.0	102.7	101.3	100.8	100.4	99.9	99.4
77.5°	81.0	79.7	78.5	77.6	77.2	76.6	76.1	75.7
80°	65.2	64.5	63.8	63.2	62.7	62.3	61.8	61.3
82.5°	50.0	49.3	48.6	48.2	48.1	48.0	47.9	47.8
85°	28.7	28.2	27.8	27.5	27.5	27.5	27.5	27.5
87.5°	12.4	12.3	12.2	12.1	11.9	11.7	11.6	11.4
90°	8.9	9.3	9.6	10.3	10.0	10.3	10.7	10.3
92.5°	30.1	23.8	21.0	19.2	18.6	17.5	17.9	17.2
95°	128.5	87.1	68.2	55.3	48.6	45.3	42.8	41.4
97.5°	320.2	256.5	210.5	167.8	141.5	125.4	115.7	112.7
100°	420.7	391.8	350.1	299.4	263.4	237.3	223.4	223.8
102.5°	454.1	453.2	428.9	396.8	368.7	348.1	336.5	328.2
105°	463.9	499.6	506.3	497.2	480.7	467.2	455.8	453.9
107.5°	435.8	493.7	525.0	537.8	538.1	533.4	529.6	526.3
110°	409.0	474.6	519.6	544.6	554.6	557.4	556.7	556.0



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CATALOG NUMBER: S123RDIP-S775D365U840-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	382.4	449.5	499.9	532.0	550.3	559.2	561.9	562.0
115°	347.2	409.3	461.8	500.7	527.5	543.1	550.3	552.1
117.5°	321.7	375.4	422.4	461.9	489.9	507.9	518.1	520.5
120°	308.3	356.5	399.3	435.4	463.5	483.5	492.1	494.2
122.5°	297.8	341.3	381.0	414.5	439.6	457.6	467.0	469.7
125°	283.7	322.7	356.9	385.5	408.3	423.9	432.9	435.4
127.5°	271.5	306.1	337.0	363.0	383.3	396.8	404.9	407.1
130°	263.7	295.9	324.8	349.0	367.9	380.8	388.3	391.1
132.5°	256.6	286.1	313.1	336.2	354.0	366.8	373.4	375.5
135°	246.9	272.3	295.5	315.8	333.4	344.1	350.4	352.9
137.5°	238.1	258.9	278.9	296.6	311.2	322.1	327.5	329.2
140°	233.1	251.3	268.3	283.7	297.3	307.3	313.0	312.7
142.5°	228.2	243.8	258.6	272.0	283.6	292.5	297.5	297.2
145°	222.4	234.1	245.5	255.9	264.8	272.3	275.2	275.9
147.5°	217.5	226.9	236.1	243.5	250.2	255.3	258.0	258.3
150°	214.1	222.4	229.8	236.6	242.0	245.9	248.0	248.0
152.5°	211.0	218.0	224.7	230.4	234.5	238.1	239.4	239.4
155°	206.3	212.0	217.3	221.6	224.8	227.7	228.4	228.7
157.5°	201.3	206.0	210.2	213.6	216.3	218.4	219.0	218.9
160°	198.4	202.4	205.9	208.4	210.9	213.1	213.1	212.7
162.5°	195.0	198.3	201.7	203.9	205.5	207.3	207.3	207.0
165°	190.6	192.7	195.2	197.0	198.4	199.9	199.4	199.4
167.5°	186.7	188.3	189.8	191.1	191.7	192.7	192.4	192.4
170°	184.1	185.2	186.6	187.3	187.7	188.4	188.0	188.0
172.5°	181.9	182.7	183.8	184.2	184.3	185.0	184.4	184.1
175°	178.7	179.2	179.9	179.9	179.9	180.3	179.9	179.6
177.5°	176.8	177.1	177.4	177.4	177.1	177.4	176.8	176.8
180°	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3

(END OF REPORT)