

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: P331963-840

Luminaire Tested: **S123DIP-S775D365U840-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331963-840
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: S123DIP-S775D365U840-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4527.7 lumens
Efficiency: N/A
Efficacy: 129.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Direct

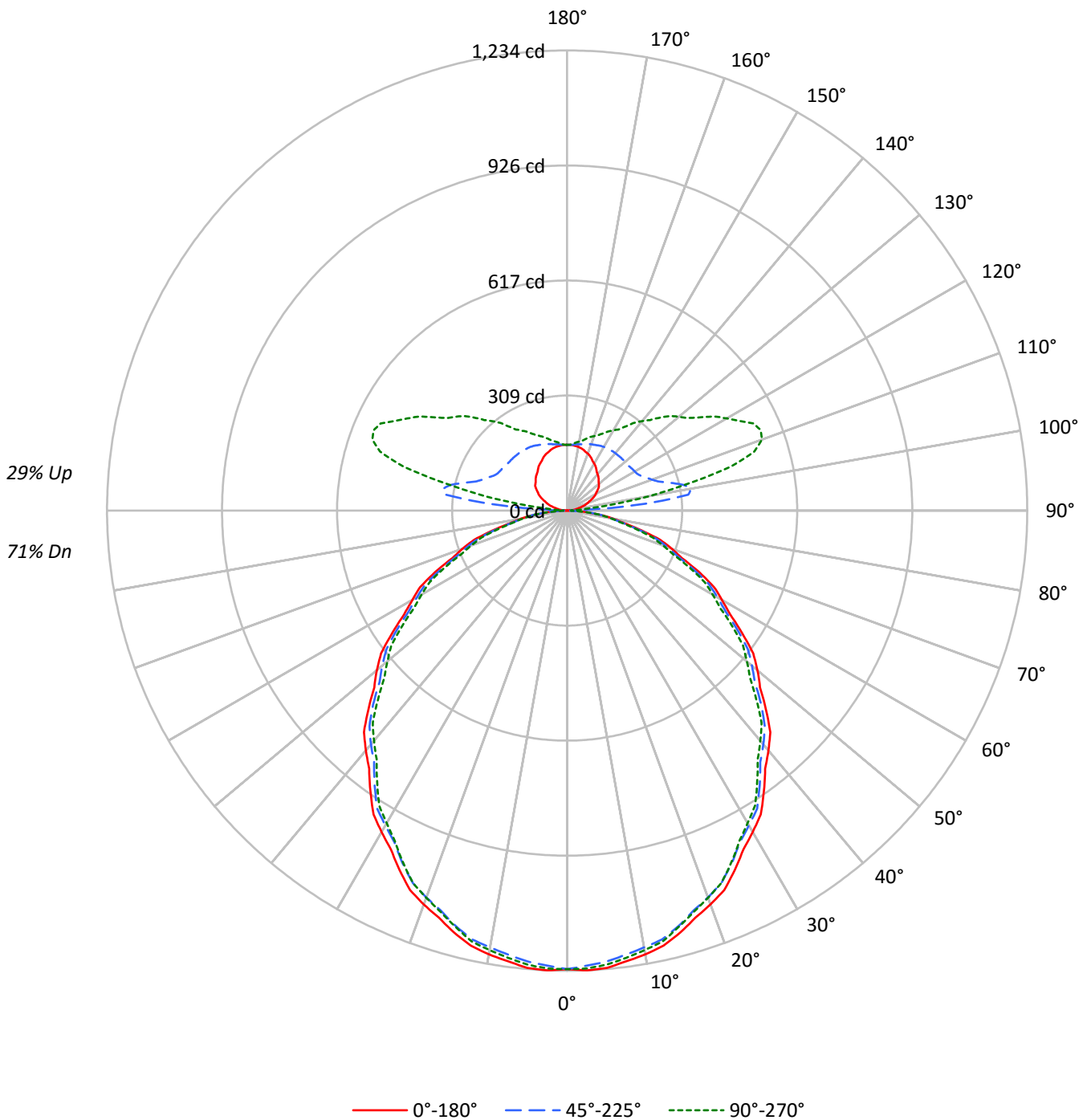
Input Watts (W): 35
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	112	112	112	112	106	106	106	106	95	95	95	85	85	85	75	75	75	71
1	102	98	94	90	97	93	89	86	83	80	78	74	72	70	66	65	63	59
2	93	85	79	74	88	81	75	70	73	68	64	65	62	59	58	56	53	50
3	85	75	67	61	80	71	64	59	64	59	54	58	53	50	52	48	45	42
4	78	67	58	52	73	63	56	50	57	51	46	51	47	43	46	42	39	36
5	72	59	51	45	67	57	49	43	51	45	40	46	41	37	42	37	34	31
6	66	53	45	39	62	51	43	38	46	40	35	42	37	32	38	33	30	27
7	61	48	40	34	58	46	39	33	42	36	31	38	33	29	34	30	27	24
8	57	44	36	30	54	42	35	29	38	32	28	35	30	26	32	27	24	22
9	53	40	33	27	50	39	31	26	35	29	25	32	27	23	29	25	22	20
10	50	37	30	25	47	36	29	24	33	27	22	30	25	21	27	23	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13237	13237	13237
5°	13299	13116	13207
10°	13210	13002	13083
15°	13056	12856	12880
20°	12875	12645	12657
25°	12634	12396	12371
30°	12367	12117	12026
35°	12089	11825	11671
40°	11797	11500	11323
45°	11478	11204	10930
50°	11156	10836	10535
55°	10736	10457	10141
60°	10312	10015	9698
65°	9938	9536	9235
70°	9385	8985	8585
75°	8576	8268	7918
80°	7736	7407	7345
85°	6780	6533	6274



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.8	2.6
10°-20°	327.1	7.2
20°-30°	483.2	10.7
30°-40°	564.4	12.5
40°-50°	567.4	12.5
50°-60°	498.4	11.0
60°-70°	371.3	8.2
70°-80°	211.6	4.7
80°-90°	62.1	1.4
90°-100°	98.1	2.2
100°-110°	277.8	6.1
110°-120°	273.3	6.0
120°-130°	218.0	4.8
130°-140°	171.9	3.8
140°-150°	128.3	2.8
150°-160°	89.4	2.0
160°-170°	52.5	1.2
170°-180°	17.1	0.4
0°-30°	926.1	20.5
0°-40°	1490.5	32.9
0°-60°	2556.3	56.5
0°-90°	3201.3	70.7
90°-120°	649.2	14.3
90°-150°	1167.3	25.8
90°-180°	1326.0	29.3
0°-180°	4527.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1230	1230	1230	1230	1230	
5°	1231	1225	1214	1224	1222	117
15°	1172	1167	1154	1161	1156	330
25°	1064	1057	1044	1044	1042	490
35°	920	913	900	894	888	575
45°	754	749	736	724	718	582
55°	572	570	557	546	540	512
65°	390	385	374	366	363	385
75°	206	202	199	194	190	221
85°	55	53	53	51	51	60
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°	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8
2.5°	1234.0	1233.2	1232.5	1231.7	1231.0	1229.6	1227.5	1225.5	1223.4	1221.3	1223.1
5°	1230.8	1229.6	1228.5	1227.3	1226.1	1224.3	1221.6	1219.1	1216.5	1213.9	1216.3
7.5°	1218.8	1217.6	1216.4	1215.3	1214.1	1212.1	1209.4	1206.8	1204.1	1201.4	1203.6
10°	1208.6	1207.4	1206.3	1205.1	1204.0	1201.8	1198.7	1195.7	1192.7	1189.6	1191.7
12.5°	1195.1	1194.1	1193.2	1192.1	1191.1	1189.2	1186.4	1183.5	1180.6	1177.7	1179.3
15°	1171.6	1170.6	1169.7	1168.8	1167.8	1165.9	1162.8	1159.7	1156.7	1153.7	1155.5
17.5°	1144.3	1143.1	1141.9	1140.6	1139.4	1137.3	1134.3	1131.1	1128.1	1125.1	1126.4
20°	1124.0	1122.6	1121.3	1119.8	1118.4	1116.1	1113.1	1110.0	1107.0	1103.9	1104.9
22.5°	1101.2	1099.7	1098.3	1096.9	1095.5	1093.3	1090.3	1087.2	1084.2	1081.1	1081.9
25°	1063.8	1062.4	1061.0	1059.6	1058.1	1055.9	1052.8	1049.8	1046.7	1043.7	1043.9
27.5°	1023.8	1022.4	1021.1	1019.7	1018.3	1016.0	1012.7	1009.5	1006.1	1002.8	1003.0
30°	995.0	993.8	992.7	991.5	990.3	988.1	984.8	981.5	978.3	974.9	974.9
32.5°	966.2	964.7	963.1	961.6	960.1	958.1	955.4	952.9	950.4	947.9	946.5
35°	920.0	918.6	917.2	915.7	914.3	912.1	909.0	905.9	902.9	899.9	898.5
37.5°	872.5	870.8	869.0	867.2	865.5	863.0	859.9	856.8	853.6	850.6	848.9
40°	839.6	838.2	836.8	835.4	833.9	831.6	828.3	825.1	821.7	818.4	816.6
42.5°	806.6	805.0	803.3	801.8	800.2	797.8	794.5	791.1	787.9	784.6	782.7
45°	754.0	753.0	752.0	751.1	750.1	748.2	745.1	742.0	739.0	736.0	733.2
47.5°	701.7	700.3	698.9	697.6	696.2	694.1	691.3	688.4	685.5	682.7	679.8
50°	666.2	665.0	663.8	662.7	661.5	659.3	656.3	653.3	650.2	647.1	644.6
52.5°	628.9	628.1	627.3	626.5	625.7	623.7	620.5	617.2	614.0	610.8	608.5
55°	572.1	571.8	571.6	571.4	571.1	569.5	566.4	563.4	560.3	557.2	554.7
57.5°	518.0	517.2	516.3	515.5	514.7	513.1	510.7	508.2	505.7	503.3	501.0
60°	479.0	478.8	478.6	478.3	478.1	476.6	473.7	470.9	468.1	465.2	463.1
62.5°	444.3	443.7	443.1	442.5	441.9	440.2	437.4	434.5	431.7	428.9	426.8
65°	390.2	389.0	387.8	386.7	385.5	383.7	381.3	379.0	376.7	374.4	372.4
67.5°	332.9	331.8	330.8	329.7	328.7	327.3	325.6	323.8	321.9	320.2	318.5
70°	298.2	296.8	295.4	294.0	292.6	291.1	289.7	288.3	286.9	285.5	283.9
72.5°	261.9	260.7	259.7	258.7	257.7	256.4	254.8	253.2	251.6	249.9	248.5
75°	206.2	205.2	204.3	203.4	202.5	201.6	200.9	200.2	199.4	198.8	197.6
77.5°	156.9	156.4	155.9	155.4	154.8	154.2	153.3	152.5	151.7	150.8	150.0
80°	124.8	124.1	123.4	122.7	122.0	121.4	120.9	120.5	120.0	119.5	119.3
82.5°	93.5	93.3	93.2	93.0	92.9	92.8	92.7	92.6	92.5	92.4	92.0
85°	54.9	54.5	54.0	53.6	53.1	52.9	52.9	52.9	52.9	52.9	52.4
87.5°	22.1	21.7	21.3	20.9	20.5	20.3	20.3	20.3	20.4	20.4	20.1
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°	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8
2.5°	1225.1	1227.0	1228.8	1229.7	1229.5	1229.3	1229.1	1228.9
5°	1218.6	1220.9	1223.4	1224.3	1223.8	1223.4	1222.8	1222.3
7.5°	1205.7	1207.8	1209.9	1210.8	1210.5	1210.2	1209.9	1209.7
10°	1193.9	1195.9	1198.0	1198.9	1198.4	1197.9	1197.5	1197.0
12.5°	1180.8	1182.3	1184.0	1184.6	1184.3	1184.0	1183.8	1183.5
15°	1157.4	1159.2	1161.1	1161.3	1159.9	1158.5	1157.2	1155.8
17.5°	1127.7	1129.0	1130.3	1130.7	1130.2	1129.7	1129.2	1128.7
20°	1105.8	1106.7	1107.7	1107.8	1107.1	1106.4	1105.7	1105.0
22.5°	1082.6	1083.4	1084.1	1084.0	1083.2	1082.3	1081.4	1080.5
25°	1044.1	1044.4	1044.6	1044.4	1043.7	1043.0	1042.3	1041.6
27.5°	1003.2	1003.4	1003.6	1003.2	1002.4	1001.5	1000.6	999.7
30°	974.9	974.9	974.9	974.1	972.5	970.8	969.2	967.6
32.5°	945.2	943.9	942.6	941.5	940.6	939.7	938.8	938.0
35°	897.1	895.6	894.2	892.9	891.7	890.6	889.4	888.2
37.5°	847.2	845.5	843.8	842.6	841.8	841.1	840.3	839.6
40°	814.7	812.8	810.9	809.5	808.6	807.6	806.7	805.8
42.5°	780.8	778.9	777.1	775.7	774.8	773.8	772.8	771.9
45°	730.3	727.5	724.7	722.7	721.5	720.3	719.1	718.0
47.5°	677.1	674.4	671.6	669.6	668.6	667.6	666.6	665.5
50°	642.0	639.3	636.8	634.8	633.4	632.0	630.6	629.1
52.5°	606.3	604.1	601.9	600.2	598.7	597.3	595.9	594.5
55°	552.1	549.5	546.9	545.0	543.8	542.7	541.5	540.4
57.5°	498.7	496.4	494.1	492.3	490.9	489.6	488.2	486.9
60°	461.0	458.9	456.8	455.1	453.9	452.8	451.6	450.5
62.5°	424.6	422.5	420.4	419.0	418.2	417.4	416.6	415.8
65°	370.5	368.7	366.8	365.5	364.8	364.1	363.3	362.6
67.5°	316.9	315.3	313.6	312.3	311.3	310.3	309.3	308.3
70°	282.3	280.5	278.9	277.5	276.3	275.2	274.0	272.8
72.5°	247.0	245.6	244.2	243.1	242.5	241.9	241.3	240.7
75°	196.4	195.3	194.1	193.2	192.5	191.8	191.1	190.4
77.5°	149.2	148.3	147.5	147.2	147.2	147.2	147.2	147.2
80°	119.1	118.8	118.6	118.5	118.5	118.5	118.5	118.5
82.5°	91.6	91.2	90.7	90.4	90.3	90.1	89.9	89.7
85°	51.9	51.5	51.0	50.8	50.8	50.8	50.8	50.8
87.5°	20.0	19.9	19.8	19.8	19.8	19.8	19.9	19.8
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: S123DIP-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)