

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: P334101

Luminaire Tested: **S124DS-S575D840-4F0-1E-UDD-A**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P334101
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-21)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DS-S575D840-4F0-1E-UDD-A
Description: DEFINE 4 DIRECT LED LUMINAIRE, ASYMMETRIC DIFFUSER
PENDANT/SURFACE/WALL MOUNT, 575 LUMENS PER FOOT
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2415.1 lumens
Efficiency: N/A
Efficacy: 128.5 lumens/watt
Spacing Criteria (0/90/45): 1.3 / 1.22 / 1.41
Luminous Opening: Rectangular (W 4' x L: 0.33' x H: 0')
CIE Type: Direct

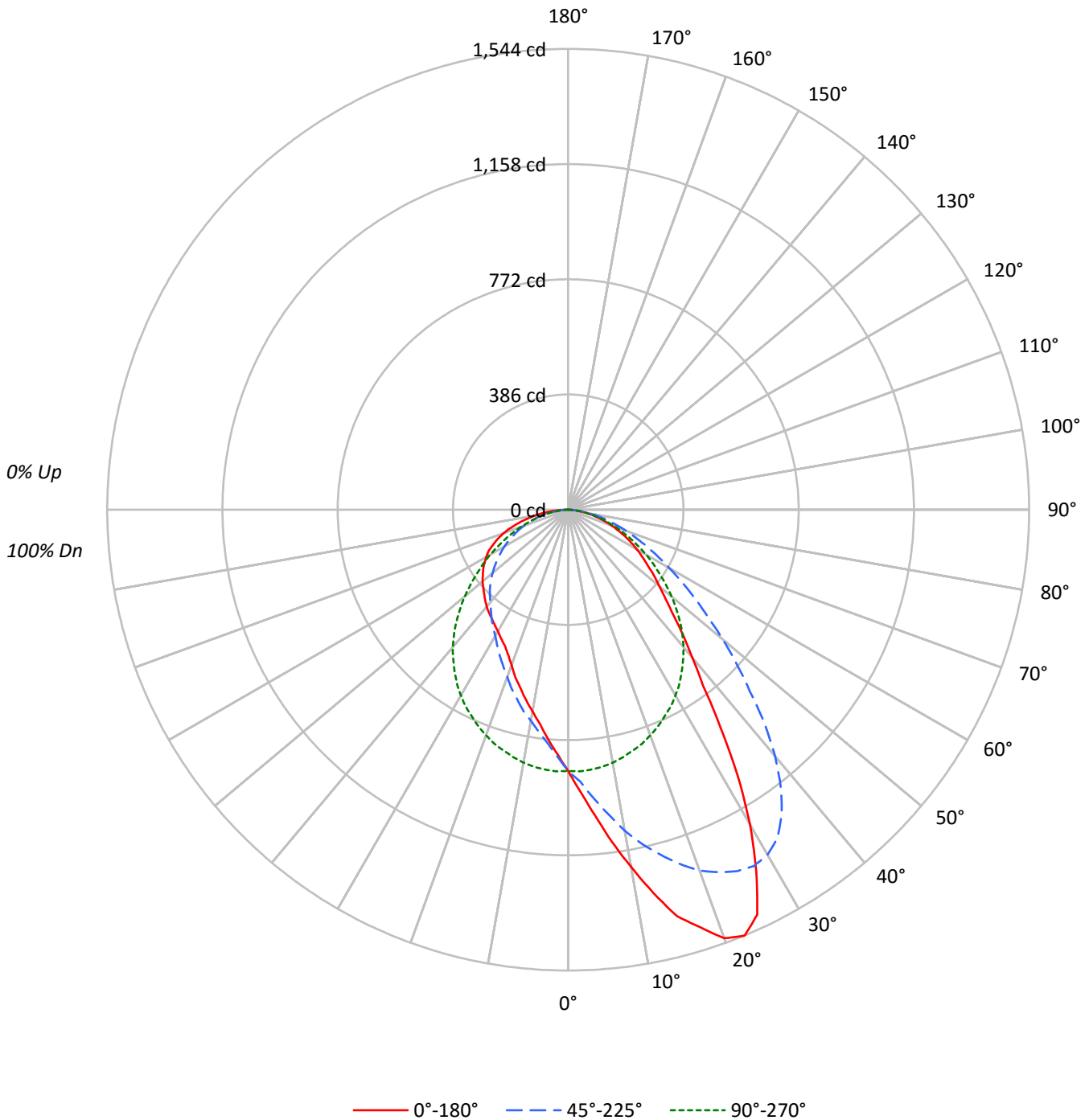
Input Watts (W): 18.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	105	101	97	107	103	99	96	98	95	93	95	92	90	91	89	87	85
2	100	92	86	80	98	90	84	79	87	82	78	84	79	76	81	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	62
4	84	73	64	58	82	72	64	58	69	62	57	67	61	56	65	60	55	53
5	78	65	57	50	76	64	56	50	62	55	50	60	54	49	58	53	49	46
6	72	59	51	44	70	58	50	44	56	49	44	55	48	43	53	47	43	41
7	67	54	45	39	65	53	45	39	52	44	39	50	44	39	49	43	38	36
8	62	49	41	35	61	49	41	35	47	40	35	46	40	35	45	39	35	33
9	58	45	37	32	57	45	37	32	44	37	32	43	36	32	42	36	31	30
10	55	42	34	29	54	41	34	29	40	34	29	39	33	29	39	33	29	27

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	7065	7065	7065
5°	8321	7084	6252
10°	9962	7052	5629
15°	11787	6981	5169
20°	13125	6909	4759
25°	13338	6801	4476
30°	11349	6699	4387
35°	8726	6532	4388
40°	6802	6335	4470
45°	5671	6040	4545
50°	4991	5678	4700
55°	4573	5246	4888
60°	4285	4858	5117
65°	3989	4426	5305
70°	3644	3996	5426
75°	3256	3518	5362
80°	2729	2882	5193
85°	2019	2084	4974



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.2	3.5
10°-20°	262.9	10.9
20°-30°	417.7	17.3
30°-40°	464.1	19.2
40°-50°	422.1	17.5
50°-60°	344.9	14.3
60°-70°	246.2	10.2
70°-80°	135.5	5.6
80°-90°	36.6	1.5
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	765.8	31.7
0°-40°	1229.8	50.9
0°-60°	1996.8	82.7
0°-90°	2415.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2415.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	875	875	875	875	875	
5°	1027	970	874	786	772	104
15°	1410	1197	835	658	618	399
25°	1497	1337	764	541	502	664
35°	885	1247	663	447	445	560
45°	497	861	529	370	398	390
55°	325	518	373	290	347	293
65°	209	289	232	201	278	207
75°	104	134	113	112	172	111
85°	22	28	22	32	54	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	875.2	875.2	875.2	875.2	875.2	875.2	875.2	875.2	875.2	875.2	875.2
2.5°	945.5	945.2	941.6	940.8	938.3	935.0	934.3	928.5	916.9	911.5	910.0
5°	1026.8	1034.0	1024.6	1022.8	1021.7	1009.7	1003.6	996.3	979.6	969.8	962.2
7.5°	1121.8	1122.1	1118.1	1114.1	1107.2	1097.1	1083.3	1067.4	1048.2	1028.6	1014.8
10°	1215.3	1218.2	1213.5	1212.8	1194.3	1182.7	1159.5	1139.9	1117.4	1092.4	1069.5
12.5°	1313.9	1308.1	1306.3	1287.1	1287.4	1263.9	1236.0	1215.7	1177.9	1148.2	1116.0
15°	1410.3	1402.4	1397.3	1375.9	1365.4	1336.0	1307.4	1285.3	1239.9	1196.8	1164.2
17.5°	1466.2	1476.0	1462.9	1454.2	1425.6	1406.4	1377.7	1332.4	1298.7	1245.0	1207.7
20°	1527.8	1528.5	1522.0	1513.0	1491.6	1465.5	1433.6	1382.8	1340.4	1287.1	1230.5
22.5°	1544.5	1544.5	1542.7	1534.3	1519.5	1499.5	1467.3	1427.0	1373.4	1314.3	1257.7
25°	1497.4	1495.9	1499.2	1508.6	1502.4	1495.9	1477.4	1445.9	1398.0	1336.7	1275.8
27.5°	1363.9	1373.4	1392.9	1416.1	1432.8	1447.7	1446.6	1433.2	1399.1	1346.2	1281.3
30°	1217.5	1229.8	1243.6	1266.8	1311.7	1337.5	1365.8	1387.1	1375.2	1334.9	1275.5
32.5°	1056.5	1057.2	1079.3	1106.5	1146.8	1202.2	1251.2	1300.1	1321.2	1304.8	1257.7
35°	885.4	890.4	912.6	938.7	989.1	1049.6	1117.0	1177.2	1226.9	1246.8	1221.5
37.5°	741.8	757.7	774.4	804.2	850.2	904.9	977.5	1052.5	1125.4	1169.6	1174.3
40°	645.4	654.4	665.7	687.0	724.8	778.4	838.6	927.8	1006.5	1077.5	1100.7
42.5°	569.2	573.6	579.4	598.2	624.7	678.0	731.6	807.4	886.5	974.9	1017.7
45°	496.7	502.1	513.7	525.0	546.7	583.7	634.8	699.4	778.8	860.7	932.5
47.5°	442.3	445.9	453.2	465.5	485.1	510.1	553.6	608.4	686.0	765.4	842.2
50°	397.4	400.3	405.7	416.6	430.7	452.5	486.6	536.9	594.6	674.7	749.8
52.5°	361.8	362.6	366.2	372.7	383.2	400.6	427.1	466.6	519.2	588.4	663.1
55°	324.9	326.3	329.9	335.4	345.2	356.8	378.1	409.3	456.1	518.1	583.0
57.5°	294.4	295.8	298.7	300.9	309.6	319.4	336.8	359.3	395.9	451.0	510.1
60°	265.4	264.7	268.3	270.1	275.5	283.5	296.2	317.6	348.4	390.8	444.1
62.5°	237.1	236.0	238.9	241.5	244.0	250.5	260.3	275.9	299.5	336.8	381.0
65°	208.8	207.4	209.2	212.1	215.0	218.6	226.2	241.1	261.0	288.6	323.8
67.5°	179.8	181.6	181.6	183.5	185.3	190.3	195.8	207.4	221.5	244.0	275.2
70°	154.4	154.8	156.3	156.3	157.3	161.7	166.1	172.2	186.0	206.3	230.6
72.5°	129.1	130.9	129.8	131.2	132.0	134.5	137.4	143.2	154.4	168.2	187.8
75°	104.4	105.5	105.5	105.9	107.0	108.0	110.6	114.9	123.3	134.5	148.6
77.5°	80.5	80.5	81.2	82.7	82.7	84.5	86.7	89.9	94.6	103.0	112.0
80°	58.7	59.5	59.1	59.8	59.8	61.3	62.0	66.3	68.2	73.2	80.1
82.5°	39.2	39.9	39.9	41.0	41.7	41.7	42.8	43.9	45.7	50.0	51.8
85°	21.8	22.5	21.8	22.5	23.6	23.9	25.0	25.4	26.8	27.9	30.5
87.5°	8.0	9.1	9.1	9.4	10.2	10.5	10.9	10.5	12.0	12.3	13.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	875.2	875.2	875.2	875.2	875.2	875.2	875.2	875.2	875.2	875.2	875.2
2.5°	910.4	905.3	901.7	898.8	890.8	886.1	882.5	877.4	871.6	865.4	857.8
5°	954.6	942.3	933.2	919.4	906.4	895.5	884.3	874.1	861.8	848.4	838.6
7.5°	999.9	982.9	960.1	942.3	920.9	902.4	886.1	869.0	850.9	833.5	817.2
10°	1042.7	1019.1	993.0	962.2	933.2	907.5	883.6	860.3	837.9	815.4	796.2
12.5°	1088.8	1057.9	1016.2	978.9	945.5	908.9	878.8	849.1	820.8	796.9	773.7
15°	1129.0	1086.6	1042.0	993.8	951.0	910.7	871.2	835.3	804.9	773.7	751.9
17.5°	1154.4	1101.8	1054.0	1003.6	954.2	903.9	862.9	822.6	784.9	754.5	727.3
20°	1179.4	1127.2	1063.7	1013.3	951.7	899.5	850.2	804.2	764.3	731.3	703.0
22.5°	1201.2	1138.8	1075.3	1005.0	943.7	887.5	832.4	786.0	745.1	709.9	683.1
25°	1206.2	1137.0	1068.1	1002.1	932.5	866.9	817.9	763.5	720.0	683.4	654.4
27.5°	1208.0	1134.8	1058.3	986.5	914.7	854.9	791.1	743.6	698.6	659.9	632.3
30°	1204.1	1126.8	1043.1	963.7	891.5	825.2	771.5	718.6	672.5	634.1	605.1
32.5°	1191.4	1110.1	1023.5	938.3	862.9	798.4	742.5	692.8	648.3	610.5	579.7
35°	1164.5	1085.1	993.4	906.0	829.5	763.9	713.9	662.8	617.8	581.9	552.5
37.5°	1128.6	1054.7	961.5	870.5	796.9	730.2	679.8	632.7	592.1	555.1	524.6
40°	1078.6	1015.5	922.0	833.9	752.7	689.9	643.5	601.1	560.9	526.4	497.8
42.5°	1021.0	968.0	883.6	788.9	711.3	648.3	603.3	566.3	529.0	497.8	469.1
45°	950.3	914.0	832.8	746.5	664.9	605.5	562.3	529.0	497.1	465.9	442.0
47.5°	871.6	851.3	780.6	697.9	619.6	560.2	522.8	490.9	461.9	434.7	413.3
50°	792.2	783.5	724.4	645.4	571.4	516.3	478.6	452.1	428.2	405.0	385.0
52.5°	713.9	715.7	663.8	593.1	526.1	473.5	436.2	411.9	391.9	374.2	356.8
55°	633.7	643.9	602.2	537.7	476.4	428.5	394.8	372.7	358.2	342.6	329.2
57.5°	560.2	577.2	540.9	481.8	430.0	384.3	354.6	337.5	321.6	311.4	300.9
60°	488.4	504.3	477.5	429.6	381.4	343.7	315.8	300.9	287.5	281.0	274.1
62.5°	424.6	438.3	420.2	376.7	336.5	300.6	278.1	263.9	256.0	248.7	244.7
65°	364.4	376.3	359.3	327.0	291.1	262.1	242.9	231.7	223.0	220.1	215.0
67.5°	304.9	315.8	306.7	278.4	248.0	225.1	209.9	198.0	192.9	190.0	186.7
70°	253.1	263.9	254.2	230.2	208.1	189.6	175.5	169.3	163.9	162.8	157.7
72.5°	209.2	215.7	205.9	188.5	170.4	155.5	145.4	138.9	136.7	134.5	132.3
75°	163.5	170.0	163.5	149.0	135.6	124.7	115.3	112.8	109.5	108.4	106.6
77.5°	122.5	128.7	123.6	113.8	103.3	94.3	88.8	85.2	84.8	82.7	83.4
80°	88.5	92.1	87.4	81.2	73.2	67.4	63.8	62.0	59.8	59.1	60.5
82.5°	57.3	58.4	56.6	52.9	47.5	44.2	42.1	39.9	39.9	40.2	39.9
85°	33.0	32.6	32.3	28.6	26.8	24.3	22.8	22.5	22.1	22.8	23.6
87.5°	13.8	14.1	13.8	12.3	11.2	10.2	9.8	9.4	9.8	10.2	10.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	875.2	875.2	875.2	875.2	875.2	875.2	875.2	875.2	875.2	875.2	875.2
2.5°	854.2	850.9	846.2	839.7	834.2	828.4	827.0	824.8	829.2	825.5	824.5
5°	830.3	822.6	812.9	801.6	795.1	785.7	783.8	780.2	776.6	776.2	772.6
7.5°	805.2	794.7	782.4	770.8	760.6	750.5	744.0	743.2	737.4	734.5	730.9
10°	781.3	767.5	752.7	741.8	729.5	718.6	711.0	706.6	703.0	699.0	695.4
12.5°	753.0	738.2	726.6	714.6	699.4	691.8	678.0	669.6	669.6	670.7	659.9
15°	732.4	717.9	699.0	682.3	674.4	658.4	651.5	642.8	637.4	631.9	627.6
17.5°	707.0	689.2	674.7	655.9	641.0	629.0	619.6	614.9	606.2	598.2	592.8
20°	683.4	664.2	648.6	628.3	611.6	596.0	588.4	581.2	575.0	568.5	562.3
22.5°	659.5	639.2	619.2	599.7	584.4	567.8	560.5	550.0	544.2	541.3	535.1
25°	634.1	612.4	590.6	571.8	555.8	541.3	531.5	523.9	517.4	514.5	510.5
27.5°	606.6	585.2	564.5	542.7	524.3	513.7	505.8	499.6	495.6	491.3	489.5
30°	580.5	558.0	535.5	515.6	498.9	488.4	481.1	477.1	474.2	472.4	470.6
32.5°	554.0	531.9	507.9	490.2	475.7	466.6	461.5	457.5	456.5	456.1	455.7
35°	525.3	502.9	481.1	464.8	450.7	447.0	442.3	440.1	439.4	442.0	443.0
37.5°	497.8	476.8	456.5	440.1	430.7	424.9	423.1	422.7	425.3	427.5	430.0
40°	471.3	451.0	432.2	418.4	409.7	406.4	405.7	407.5	410.4	413.0	415.9
42.5°	445.6	425.6	409.0	396.3	390.8	387.9	388.7	390.5	394.8	398.1	402.8
45°	418.8	402.1	385.4	374.9	369.8	370.5	370.5	373.8	377.8	382.5	387.2
47.5°	393.7	376.7	362.6	353.5	351.0	349.9	351.7	356.0	361.5	366.9	373.4
50°	368.4	352.4	340.4	332.5	329.6	330.7	333.6	337.5	344.4	351.7	358.6
52.5°	342.6	328.5	317.6	310.3	308.5	310.7	313.6	320.5	326.3	334.3	343.0
55°	315.8	303.5	294.8	289.3	288.6	289.7	292.9	299.8	308.5	318.3	326.3
57.5°	289.3	278.8	270.5	266.5	266.8	267.6	272.6	281.0	289.7	300.2	310.3
60°	262.5	253.1	246.5	243.6	244.0	246.2	252.7	260.3	271.9	282.1	292.9
62.5°	237.1	229.1	223.0	220.4	219.7	225.1	231.3	239.3	250.9	262.5	274.5
65°	209.6	203.0	198.0	196.5	197.6	201.2	209.2	219.7	229.5	241.5	253.8
67.5°	182.7	177.3	173.7	174.4	175.5	180.6	187.4	196.5	207.4	219.7	232.4
70°	157.3	152.3	149.4	149.7	151.9	158.4	164.2	173.3	185.3	198.0	208.1
72.5°	131.2	128.3	125.8	127.6	129.8	133.8	141.4	150.5	160.6	172.2	183.1
75°	104.8	104.8	103.3	104.4	107.7	112.0	117.5	126.9	137.4	146.8	155.5
77.5°	82.3	81.2	81.9	83.0	85.2	90.6	96.8	103.7	112.0	121.8	129.1
80°	59.5	59.8	61.6	63.8	64.5	68.5	75.0	81.2	87.4	95.4	102.2
82.5°	41.0	41.3	42.1	45.0	45.7	50.0	53.7	59.8	65.3	70.0	75.4
85°	24.3	24.3	26.1	27.2	29.0	31.9	34.4	38.1	43.1	46.8	52.2
87.5°	11.6	11.6	13.1	13.8	14.9	16.7	17.4	21.4	22.8	24.7	27.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P334101

CATALOG NUMBER: S124DS-S575D840-4F0-1E-UDD-A

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	875.2	875.2	875.2	875.2
2.5°	823.7	823.0	820.5	820.1
5°	770.4	768.6	767.5	771.5
7.5°	730.2	728.7	725.5	724.4
10°	691.8	690.3	687.4	686.7
12.5°	654.8	651.5	651.5	652.6
15°	622.9	621.4	617.4	618.5
17.5°	590.2	588.8	583.4	588.8
20°	559.8	556.9	554.3	554.0
22.5°	530.8	528.2	528.6	525.7
25°	507.6	505.0	504.3	502.5
27.5°	488.7	487.3	485.8	486.6
30°	471.7	471.3	470.6	470.6
32.5°	457.5	457.5	458.3	458.3
35°	444.5	445.6	446.3	445.2
37.5°	432.9	433.6	434.7	435.8
40°	419.1	421.7	422.4	424.2
42.5°	406.1	409.0	411.1	411.1
45°	392.6	395.5	398.1	398.1
47.5°	378.9	382.9	385.4	385.8
50°	364.7	369.8	372.3	374.2
52.5°	351.0	356.0	359.7	360.4
55°	334.6	341.9	345.9	347.3
57.5°	320.1	326.7	331.0	332.1
60°	302.7	310.0	315.8	316.9
62.5°	285.0	292.6	297.7	300.9
65°	263.9	271.6	276.6	277.7
67.5°	241.8	249.8	253.1	255.2
70°	218.3	224.4	228.0	229.9
72.5°	191.4	198.0	202.3	202.3
75°	163.9	169.7	171.9	171.9
77.5°	135.2	138.5	141.4	142.1
80°	107.7	109.5	111.7	111.7
82.5°	79.4	80.9	83.0	82.7
85°	51.5	54.7	54.4	53.7
87.5°	29.0	29.4	30.5	31.2
90°	0.0	0.0	0.0	0.0

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