

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: P332684-927

Luminaire Tested: **S124DIP-S1195D590U927-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332684-927
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-S1195D590U927-4F0-1E-UDD-D4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 590 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5524.8 lumens
Efficiency: N/A
Efficacy: 100.3 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

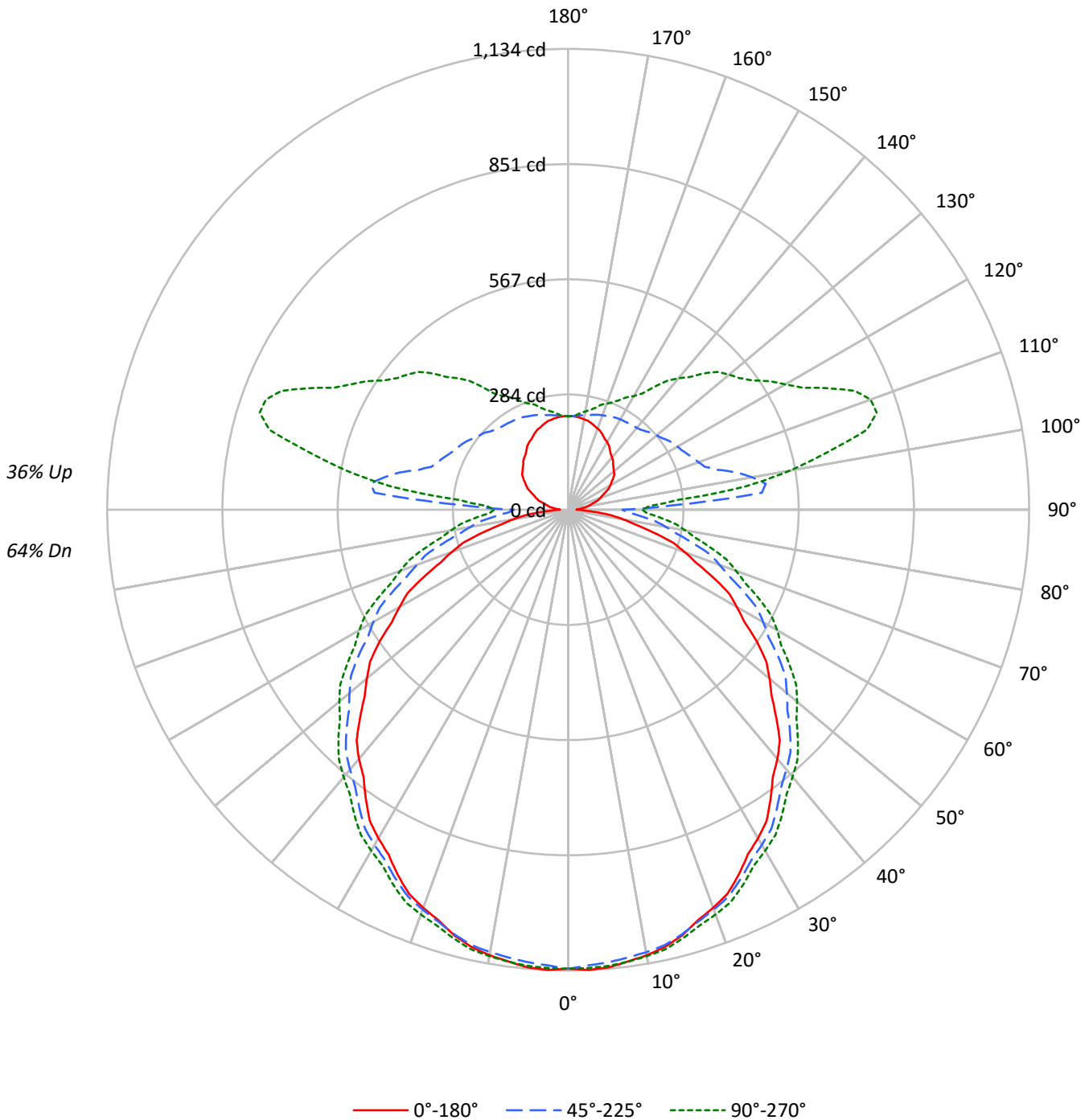
Input Watts (W): 55.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	111	111	111	111	104	104	104	104	91	91	91	80	80	80	69	69	69	64
1	100	95	90	86	93	89	85	81	78	75	72	68	66	64	59	58	56	52
2	90	82	75	69	84	77	71	66	68	63	59	59	56	52	51	49	46	42
3	82	72	64	57	77	67	60	54	59	54	49	52	47	44	45	42	39	35
4	75	63	55	48	70	59	52	46	53	46	41	46	41	37	40	36	33	30
5	69	56	47	41	64	53	45	39	47	40	36	41	36	32	36	32	28	25
6	63	50	42	35	59	47	40	34	42	36	31	37	32	28	32	28	25	22
7	58	45	37	31	55	43	35	30	38	32	27	34	28	25	30	25	22	20
8	54	41	33	27	51	39	32	26	35	29	24	31	26	22	27	23	20	17
9	51	38	30	24	47	36	28	23	32	26	22	28	23	20	25	21	18	16
10	47	35	27	22	44	33	26	21	29	23	19	26	21	18	23	19	16	14

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	1.9
10°-20°	306.5	5.5
20°-30°	463.4	8.4
30°-40°	560.7	10.1
40°-50°	592.8	10.7
50°-60°	557.9	10.1
60°-70°	462.9	8.4
70°-80°	325.1	5.9
80°-90°	185.1	3.3
90°-100°	275.3	5.0
100°-110°	426.6	7.7
110°-120°	363.9	6.6
120°-130°	291.1	5.3
130°-140°	230.4	4.2
140°-150°	168.6	3.1
150°-160°	116.7	2.1
160°-170°	68.6	1.2
170°-180°	22.3	0.4
0°-30°	876.9	15.9
0°-40°	1437.6	26.0
0°-60°	2588.3	46.8
0°-90°	3561.3	64.5
90°-120°	1065.8	19.3
90°-150°	1755.9	31.8
90°-180°	1964.0	35.5
0°-180°	5524.8	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	75	133	170	182	14
95°	31	106	478	325	266	30
105°	64	114	380	752	761	69
115°	101	137	324	594	707	100
125°	135	160	298	491	554	120
135°	157	186	272	415	475	121
145°	179	203	259	331	368	112
155°	202	218	252	286	298	93
165°	220	227	242	256	260	62
175°	230	230	232	235	234	22
180°	230	230	230	230	230	



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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°	37.5	49.2	60.9	72.5	84.1	95.9	108.8	121.1	133.6	146.1	154.2
90°	20.7	32.9	45.5	57.1	68.8	80.5	95.3	107.4	120.4	133.4	141.1
92.5°	24.4	36.8	51.3	66.9	83.6	104.1	139.1	186.2	232.5	262.5	246.4
95°	31.4	42.0	55.8	70.9	91.0	120.4	171.3	256.9	376.4	478.3	496.3
97.5°	41.7	49.7	61.6	74.9	92.2	117.8	159.5	232.1	350.9	490.1	585.3
100°	48.2	55.5	66.1	78.7	94.7	118.3	155.9	217.9	321.1	459.5	582.7
102.5°	55.5	62.6	71.9	83.3	97.9	120.3	155.1	210.8	300.0	423.7	550.3
105°	64.2	71.2	79.1	90.2	103.9	125.0	157.1	205.0	278.7	379.9	493.1
107.5°	76.4	82.0	88.9	99.3	111.6	131.8	161.5	205.5	269.4	352.4	445.9
110°	83.8	88.6	94.8	104.2	116.2	135.3	165.1	206.5	266.1	341.4	421.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	90.7	95.1	101.2	109.8	121.4	140.1	168.6	207.8	263.6	333.1	405.0
115°	100.7	104.6	110.3	117.3	128.4	146.4	173.5	209.5	260.6	323.8	386.9
117.5°	112.3	115.1	119.5	126.0	135.5	153.1	178.6	212.0	258.0	315.8	374.3
120°	119.3	121.0	125.1	130.9	139.4	156.5	181.9	213.5	256.4	310.7	366.5
122.5°	126.5	127.6	130.9	135.7	144.3	160.5	185.4	215.2	255.1	305.3	358.5
125°	134.8	136.3	138.7	143.4	151.7	167.7	191.0	218.9	254.4	298.4	347.1
127.5°	142.9	144.1	147.0	152.5	161.1	176.4	197.6	222.0	252.2	289.9	332.9
130°	146.6	148.1	151.5	158.0	166.3	181.5	201.4	223.5	251.0	284.4	323.8
132.5°	151.3	152.5	156.9	163.0	172.1	186.1	205.0	225.9	250.4	280.0	315.9
135°	156.6	158.4	163.0	170.6	180.1	192.9	209.8	228.0	248.5	272.1	302.9
137.5°	163.2	164.7	169.4	176.4	185.9	197.5	212.4	228.5	245.9	266.3	291.9
140°	167.9	169.0	173.7	181.1	190.3	201.1	215.0	229.7	245.3	262.8	285.9
142.5°	172.0	173.3	177.8	185.1	194.2	204.5	217.5	230.8	245.3	260.8	281.3
145°	178.9	179.9	184.2	190.2	198.5	208.3	220.1	232.3	245.4	259.4	275.5
147.5°	186.9	187.1	190.8	197.0	203.8	212.7	223.7	234.3	245.8	257.8	270.8
150°	191.9	192.1	195.5	200.6	207.1	215.6	225.5	235.4	245.8	256.7	268.0
152.5°	195.7	195.7	199.2	204.2	210.2	218.1	227.0	236.1	245.1	254.8	265.1
155°	202.0	202.5	205.2	209.7	214.7	221.4	229.1	236.8	244.0	252.2	260.7
157.5°	208.4	208.4	211.0	214.4	218.8	224.1	230.7	236.8	242.9	249.4	256.4
160°	212.4	212.4	214.2	217.4	220.9	225.9	231.4	236.8	241.8	247.2	253.1
162.5°	216.0	215.6	217.1	219.9	223.2	227.0	232.1	236.8	240.7	245.0	250.2
165°	220.1	220.1	220.9	223.2	225.5	228.2	232.3	235.9	238.6	241.8	245.4
167.5°	224.1	223.7	224.1	225.9	227.1	229.2	232.2	234.8	236.5	238.5	241.1
170°	225.9	225.5	225.9	227.3	228.2	229.6	231.8	234.1	235.0	236.3	238.1
172.5°	227.8	227.3	227.4	228.4	228.9	229.9	231.5	233.4	233.5	234.2	235.6
175°	229.6	229.1	229.1	229.6	230.0	230.0	230.9	232.3	231.8	231.8	232.7
177.5°	230.4	230.0	229.7	230.0	230.0	230.0	230.4	231.1	230.4	230.4	230.8
180°	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0



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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°	162.4	170.6	178.9	184.2	186.7	189.3	191.7	194.2
90°	149.6	158.3	166.9	172.1	174.8	177.4	179.3	181.5
92.5°	223.8	209.8	204.0	200.0	197.0	196.8	197.5	199.7
95°	460.1	397.6	344.7	305.9	286.3	274.8	269.2	265.9
97.5°	611.6	593.0	556.2	513.9	483.9	459.1	448.0	440.9
100°	656.3	673.0	658.4	629.7	592.4	566.8	555.2	553.6
102.5°	648.2	700.4	714.2	705.1	683.2	665.4	653.3	652.6
105°	603.6	688.9	740.6	763.8	767.0	765.6	761.5	761.0
107.5°	544.5	634.7	704.6	749.3	773.7	786.0	792.6	795.7
110°	508.5	593.1	665.1	719.1	753.5	774.8	785.1	791.4



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CATALOG NUMBER: S124DIP-S1195D590U927-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	480.1	555.6	623.7	677.6	716.4	741.6	755.2	764.1
115°	449.6	511.4	570.5	617.9	655.5	684.6	701.1	706.6
117.5°	430.2	482.0	529.4	570.2	602.9	628.0	644.8	649.9
120°	419.5	467.2	509.0	545.0	573.0	595.2	609.1	616.4
122.5°	410.2	456.4	494.9	526.8	550.6	569.7	581.6	588.6
125°	395.9	440.1	476.6	504.9	524.7	539.6	549.8	554.2
127.5°	378.7	420.9	457.0	484.1	504.2	517.8	526.9	531.6
130°	366.4	407.2	442.9	470.2	490.4	503.4	512.4	516.7
132.5°	354.3	392.7	427.5	454.7	474.6	489.0	497.6	501.9
135°	335.8	369.7	401.7	427.5	447.2	461.5	470.5	474.8
137.5°	319.7	348.6	376.0	399.2	417.5	431.3	438.7	443.4
140°	310.4	335.3	359.3	380.7	398.0	409.3	417.1	422.1
142.5°	302.4	324.3	344.9	363.5	378.7	389.1	395.9	399.7
145°	291.7	308.7	324.0	338.0	350.5	359.3	364.9	368.3
147.5°	282.9	295.3	306.4	316.9	326.1	333.6	337.9	339.6
150°	278.8	289.2	298.3	306.4	313.6	319.5	322.2	322.7
152.5°	274.8	283.8	292.1	298.8	304.9	309.7	311.3	311.8
155°	268.9	276.1	282.9	288.3	292.9	296.4	297.8	297.8
157.5°	262.4	268.5	274.2	278.5	282.0	284.7	285.5	285.5
160°	258.5	263.5	268.4	272.0	274.7	277.5	277.9	277.9
162.5°	254.5	258.7	262.6	265.9	267.9	270.6	271.1	270.7
165°	249.0	251.7	254.8	257.1	259.0	260.7	260.3	259.8
167.5°	243.7	245.7	248.3	249.6	250.6	251.7	251.6	251.3
170°	240.4	241.8	243.6	244.9	245.8	246.3	245.8	245.8
172.5°	237.5	238.5	239.6	240.6	241.1	241.6	241.1	240.4
175°	233.6	234.1	235.0	235.0	235.0	235.9	235.0	234.1
177.5°	231.1	231.5	231.5	231.8	231.5	231.8	231.1	230.4
180°	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0

(END OF REPORT)