

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: P331650

Luminaire Tested: **SA2XXRDIP-C485D330U835-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331650
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C485D330U835-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 330 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

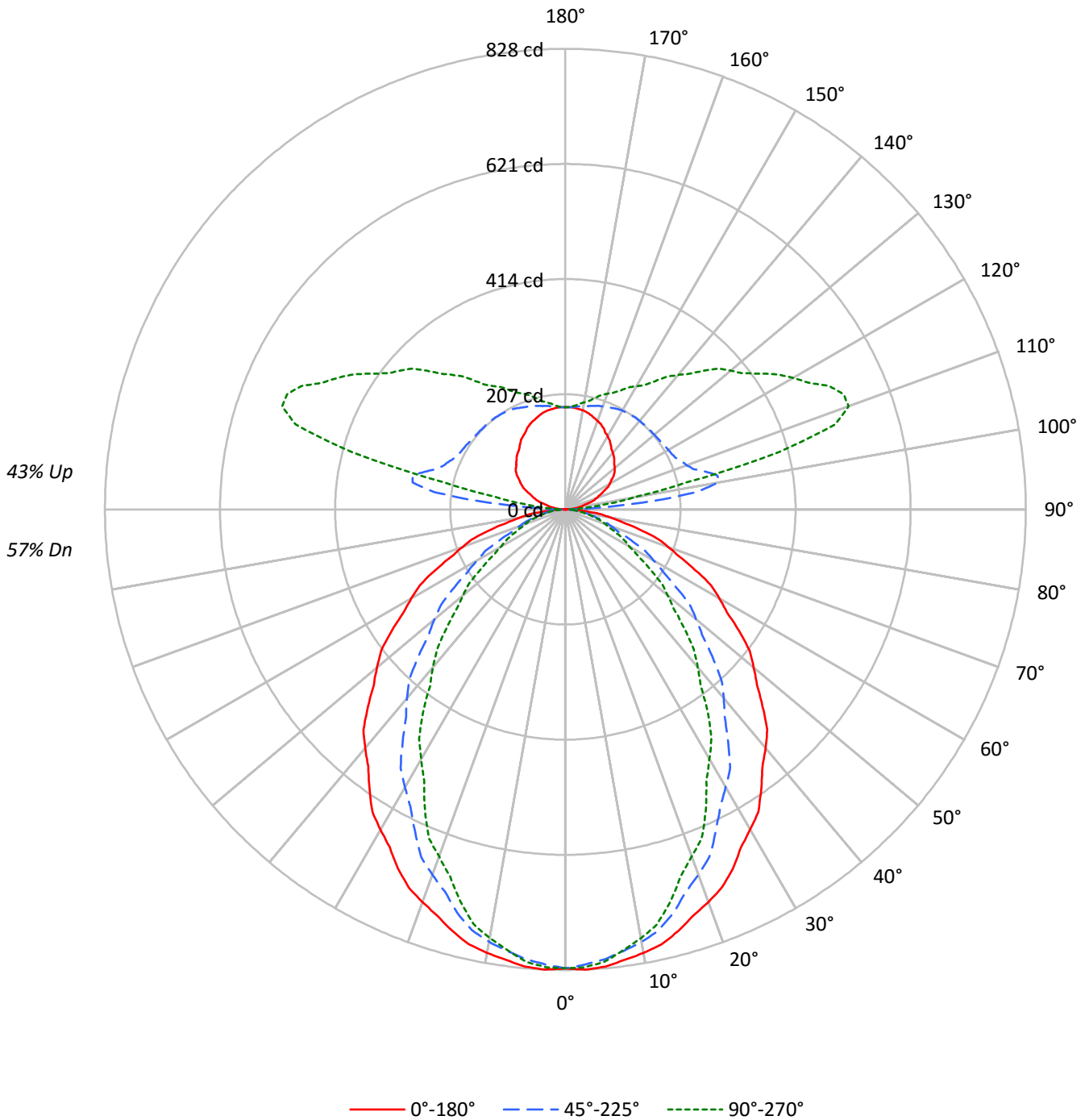
Lumens per Lamp: N/A
Luminaire Lumens: 2977.5 lumens
Efficiency: N/A
Efficacy: 108.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 27.5
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	109	109	109	109	101	101	101	101	87	87	87	74	74	74	63	63	63	57
1	100	96	92	89	93	89	86	83	77	75	73	66	65	63	56	55	54	49
2	91	84	78	73	85	79	74	69	68	65	61	59	56	54	50	48	46	42
3	84	75	67	62	78	70	64	58	61	56	52	53	49	46	45	42	40	36
4	77	66	59	53	71	62	55	50	54	49	45	47	43	40	40	37	35	32
5	71	59	52	46	66	56	49	43	49	43	39	43	38	35	37	33	31	28
6	65	54	46	40	61	50	43	38	44	39	34	39	34	31	34	30	27	25
7	61	49	41	35	57	46	39	34	40	35	31	35	31	28	31	27	25	22
8	56	44	37	31	53	42	35	30	37	31	27	33	28	25	28	25	22	20
9	53	41	33	28	49	38	32	27	34	29	25	30	26	22	26	23	20	18
10	49	37	30	26	46	35	29	24	32	26	22	28	24	20	25	21	18	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13324	13324	13324
5°	13374	13157	13230
10°	13273	12942	12832
15°	13120	12558	12197
20°	12909	12010	11407
25°	12693	11389	10644
30°	12392	10750	9663
35°	12100	10054	8803
40°	11805	9335	7807
45°	11460	8526	6907
50°	11105	7709	6021
55°	10742	6832	5171
60°	10320	5909	4292
65°	9845	4963	3908
70°	9272	4088	3597
75°	8571	3724	3356
80°	7569	3329	3059
85°	5947	2631	2631



TEST NUMBER: P331650

CATALOG NUMBER: SA2XXRDIP-C485D330U835-4F0-1E-UDD-F4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.2	2.6
10°-20°	212.1	7.1
20°-30°	297.8	10.0
30°-40°	324.8	10.9
40°-50°	298.6	10.0
50°-60°	234.5	7.9
60°-70°	152.9	5.1
70°-80°	78.8	2.6
80°-90°	22.1	0.7
90°-100°	73.5	2.5
100°-110°	249.3	8.4
110°-120°	264.8	8.9
120°-130°	218.0	7.3
130°-140°	175.1	5.9
140°-150°	132.3	4.4
150°-160°	93.0	3.1
160°-170°	54.7	1.8
170°-180°	17.8	0.6
0°-30°	587.2	19.7
0°-40°	912.0	30.6
0°-60°	1445.1	48.5
0°-90°	1699.0	57.1
90°-120°	587.6	19.7
90°-150°	1113.0	37.4
90°-180°	1279.0	43.0
0°-180°	2977.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	825	825	825	825	825	
5°	825	821	812	818	816	78
15°	785	776	751	738	730	221
25°	712	687	639	610	598	327
35°	614	574	510	465	447	384
45°	502	450	373	322	302	387
55°	382	322	243	200	184	341
65°	258	197	130	106	102	255
75°	137	87	60	55	54	145
85°	32	17	14	14	14	38
90°	0	5	12	12	12	2
95°	12	30	138	52	40	13
105°	43	65	262	468	398	46
115°	76	96	219	452	524	75
125°	106	125	211	366	425	94
135°	124	148	208	308	352	96
145°	142	163	207	257	281	89
155°	162	174	201	227	236	74
165°	176	181	193	204	207	50
175°	183	184	185	187	187	17
180°	184	184	184	184	184	



TEST NUMBER: P331650

CATALOG NUMBER: SA2XXRDIP-C485D330U835-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	825.2	825.2	825.2	825.2	825.2	825.2	825.2	825.2	825.2	825.2	825.2
2.5°	828.2	827.6	826.9	826.2	825.6	824.5	823.1	821.6	820.1	818.7	820.0
5°	825.2	824.4	823.6	822.8	821.9	820.4	818.3	816.1	814.0	811.8	813.3
7.5°	816.7	815.7	814.7	813.6	812.6	810.8	808.3	805.8	803.3	800.8	801.2
10°	809.6	808.4	807.2	806.1	804.9	802.7	799.4	796.0	792.7	789.4	788.9
12.5°	800.6	799.2	797.7	796.3	794.9	792.1	787.8	783.6	779.3	775.1	774.2
15°	784.9	783.1	781.3	779.4	777.6	773.9	768.2	762.6	757.0	751.3	748.2
17.5°	765.7	762.9	760.1	757.3	754.5	749.5	742.3	735.0	727.8	720.5	716.8
20°	751.3	748.0	744.7	741.4	738.0	732.2	723.9	715.6	707.3	699.0	694.9
22.5°	735.8	732.1	728.3	724.6	720.9	714.4	705.0	695.6	686.3	676.9	671.6
25°	712.5	707.2	701.9	696.5	691.2	683.1	672.1	661.2	650.2	639.3	632.5
27.5°	684.4	678.6	672.8	667.1	661.3	652.2	639.9	627.5	615.2	602.8	594.9
30°	664.7	658.4	652.1	645.8	639.5	629.7	616.4	603.1	589.8	576.6	568.1
32.5°	645.6	638.2	630.8	623.5	616.1	605.6	592.1	578.5	565.0	551.5	541.8
35°	613.9	605.4	597.0	588.5	580.0	568.5	553.9	539.3	524.7	510.1	499.6
37.5°	582.2	572.9	563.6	554.3	545.1	532.6	517.1	501.5	485.9	470.4	458.8
40°	560.1	550.2	540.2	530.3	520.3	507.3	491.2	475.1	459.0	442.9	431.1
42.5°	537.4	526.9	516.4	506.0	495.5	481.9	465.3	448.6	432.0	415.4	403.2
45°	501.9	490.8	479.6	468.5	457.4	443.1	425.7	408.3	390.8	373.4	361.6
47.5°	467.2	455.4	443.7	431.9	420.1	405.2	387.2	369.2	351.2	333.2	321.5
50°	442.1	430.3	418.6	406.8	395.0	380.0	361.7	343.5	325.2	306.9	295.5
52.5°	417.6	405.3	393.0	380.7	368.4	353.3	335.4	317.6	299.7	281.9	270.8
55°	381.6	368.7	355.7	342.8	329.9	314.4	296.5	278.6	260.6	242.7	232.8
57.5°	344.7	331.5	318.2	304.9	291.6	276.4	259.2	241.9	224.7	207.5	198.3
60°	319.6	306.4	293.1	279.8	266.5	251.4	234.3	217.2	200.1	183.0	174.5
62.5°	295.1	281.9	268.6	255.3	242.0	227.3	211.0	194.7	178.4	162.1	154.0
65°	257.7	244.2	230.8	217.3	203.9	189.7	174.8	159.8	144.9	129.9	124.3
67.5°	221.5	208.2	194.8	181.5	168.1	154.7	141.3	127.9	114.4	101.0	98.4
70°	196.4	183.5	170.5	157.6	144.6	132.4	121.0	109.5	98.1	86.6	85.0
72.5°	172.5	160.1	147.7	135.3	122.9	112.1	102.9	93.7	84.5	75.3	73.9
75°	137.4	125.8	114.2	102.6	90.9	82.3	76.7	71.0	65.4	59.7	58.6
77.5°	102.9	92.7	82.5	72.3	62.2	55.7	53.0	50.3	47.5	44.8	44.1
80°	81.4	72.9	64.5	56.0	47.5	42.5	40.8	39.2	37.5	35.8	35.2
82.5°	61.7	55.1	48.5	41.9	35.3	31.4	30.3	29.1	28.0	26.9	26.5
85°	32.1	28.6	25.1	21.7	18.2	16.2	15.7	15.2	14.7	14.2	14.2
87.5°	9.6	8.8	8.0	7.1	6.2	5.8	6.2	6.7	7.1	7.2	7.0
90°	0.4	1.4	2.8	3.5	4.2	5.3	7.1	9.5	11.7	12.0	11.7
92.5°	4.3	6.2	8.8	10.3	12.7	16.0	24.0	35.3	45.3	45.9	38.8
95°	12.4	13.8	17.3	20.5	26.1	34.6	50.9	81.6	122.6	138.5	121.2
97.5°	20.1	22.0	25.8	30.6	37.1	46.7	67.1	110.0	178.1	236.4	248.0
100°	27.2	28.3	31.4	37.1	44.2	54.1	72.8	115.9	192.2	279.1	330.0
102.5°	33.7	34.5	37.7	43.3	50.7	60.6	77.9	116.2	186.8	280.5	360.5
105°	43.1	44.5	47.0	52.3	60.1	70.0	86.6	118.0	176.3	261.8	355.8
107.5°	53.3	54.4	56.8	61.7	69.4	79.4	95.5	122.9	171.1	241.7	324.8
110°	60.1	61.5	63.6	68.2	75.6	85.9	101.4	126.8	170.0	232.1	305.3



TEST NUMBER: P331650

CATALOG NUMBER: SA2XXRDIP-C485D330U835-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	66.3	67.7	70.1	74.4	81.5	92.1	107.1	131.1	170.2	225.9	291.7
115°	76.0	77.7	79.9	84.1	91.2	100.7	115.9	137.4	171.7	219.1	274.9
117.5°	86.0	87.4	89.5	93.3	100.1	110.0	124.0	144.2	174.3	215.7	264.3
120°	92.2	93.6	95.8	98.9	106.0	115.9	129.7	148.8	176.0	213.8	258.6
122.5°	98.2	99.3	101.4	104.9	111.9	122.1	135.0	152.7	177.9	212.6	253.8
125°	106.0	107.1	109.2	113.4	120.5	130.4	143.1	159.0	180.9	210.6	247.0
127.5°	112.2	113.6	116.6	121.3	128.0	138.2	150.6	164.9	183.9	209.4	240.6
130°	115.9	117.3	120.8	125.8	132.9	142.7	155.1	168.5	186.2	208.8	236.4
132.5°	119.3	121.0	124.8	130.0	137.4	147.3	159.1	172.2	188.5	208.5	233.0
135°	124.4	125.8	130.0	135.3	143.5	153.3	164.7	177.0	191.2	208.1	228.2
137.5°	129.2	130.9	135.1	140.8	148.8	158.0	169.2	180.7	193.6	208.0	224.9
140°	132.9	134.3	138.5	144.2	151.9	161.1	171.7	182.7	194.7	207.8	222.9
142.5°	136.5	137.7	141.6	147.3	154.8	163.4	173.7	184.4	195.5	207.8	221.0
145°	142.0	143.5	147.0	152.3	159.4	167.1	176.7	186.6	196.4	207.0	218.4
147.5°	148.0	149.0	152.4	157.3	163.2	170.1	179.1	187.8	196.7	205.8	215.7
150°	151.9	153.0	155.8	160.4	165.7	172.1	180.2	188.3	196.4	204.9	213.4
152.5°	155.9	156.4	159.2	163.2	168.3	174.0	181.3	188.6	195.9	203.5	211.4
155°	161.5	161.8	163.9	167.8	171.7	177.0	183.0	189.0	195.0	201.0	207.8
157.5°	166.1	166.5	168.2	171.6	174.7	179.1	184.2	189.0	193.4	198.5	204.3
160°	169.2	169.6	171.0	173.8	176.7	180.6	184.8	189.0	192.6	196.8	201.7
162.5°	172.4	172.1	173.6	175.8	178.4	181.4	185.1	188.7	191.7	195.4	199.5
165°	176.0	175.6	176.3	178.4	180.2	182.3	185.5	188.0	190.1	192.6	195.7
167.5°	178.9	178.5	179.1	180.5	181.8	183.1	185.4	187.5	188.5	190.1	192.1
170°	180.9	180.2	180.6	181.6	182.3	183.4	185.1	186.9	187.6	188.7	190.1
172.5°	182.0	181.6	181.4	182.5	182.9	183.7	184.9	186.1	186.5	187.0	188.1
175°	183.4	183.0	182.7	183.4	183.4	183.7	184.4	185.1	184.8	185.1	185.5
177.5°	184.0	183.4	183.2	183.7	183.7	183.7	184.0	184.6	184.0	183.7	184.0
180°	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7



TEST NUMBER: P331650

CATALOG NUMBER: SA2XXRDIP-C485D330U835-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	825.2	825.2	825.2	825.2	825.2	825.2	825.2	825.2
2.5°	821.3	822.7	824.0	824.5	824.3	824.0	823.7	823.5
5°	814.8	816.3	817.8	818.3	817.8	817.3	816.8	816.3
7.5°	801.6	802.0	802.5	802.3	801.4	800.5	799.7	798.8
10°	788.4	787.9	787.4	786.7	785.7	784.7	783.7	782.7
12.5°	773.3	772.4	771.5	770.2	768.5	766.9	765.2	763.6
15°	745.0	741.9	738.7	736.3	734.6	733.0	731.3	729.7
17.5°	713.0	709.3	705.5	702.2	699.4	696.5	693.7	690.8
20°	690.7	686.6	682.4	678.5	674.9	671.2	667.6	663.9
22.5°	666.2	660.9	655.6	651.5	648.8	646.1	643.4	640.6
25°	625.7	618.9	612.1	607.4	604.9	602.4	600.0	597.5
27.5°	587.0	579.0	571.1	565.2	561.2	557.3	553.3	549.4
30°	559.6	551.2	542.7	536.2	531.7	527.3	522.8	518.3
32.5°	532.1	522.5	512.8	505.9	501.7	497.5	493.2	489.0
35°	489.2	478.7	468.3	461.2	457.6	453.9	450.3	446.6
37.5°	447.3	435.8	424.3	416.4	412.3	408.1	403.9	399.7
40°	419.3	407.5	395.7	387.7	383.4	379.1	374.7	370.4
42.5°	391.0	378.8	366.7	358.5	354.3	350.1	345.9	341.7
45°	349.8	338.1	326.3	318.4	314.4	310.4	306.4	302.5
47.5°	309.8	298.1	286.4	278.7	275.1	271.5	267.8	264.2
50°	284.0	272.6	261.1	253.7	250.2	246.7	243.2	239.7
52.5°	259.7	248.7	237.6	230.5	227.3	224.1	220.8	217.6
55°	222.8	212.8	202.9	196.3	193.2	190.0	186.9	183.7
57.5°	189.2	180.1	171.0	165.1	162.4	159.8	157.1	154.4
60°	166.0	157.6	149.1	143.6	140.9	138.2	135.6	132.9
62.5°	145.9	137.9	129.8	125.0	123.4	121.8	120.2	118.6
65°	118.7	113.0	107.4	104.3	103.8	103.3	102.8	102.3
67.5°	95.8	93.2	90.6	89.1	88.5	88.0	87.5	86.9
70°	83.3	81.7	80.0	78.8	78.2	77.5	76.8	76.2
72.5°	72.5	71.1	69.7	68.8	68.4	68.0	67.6	67.2
75°	57.4	56.3	55.1	54.4	54.3	54.1	53.9	53.8
77.5°	43.5	42.8	42.2	41.7	41.4	41.2	40.9	40.6
80°	34.5	33.9	33.2	32.9	32.9	32.9	32.9	32.9
82.5°	26.1	25.7	25.3	25.1	25.1	25.1	25.1	25.1
85°	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2
87.5°	6.8	6.5	6.5	6.5	6.5	6.5	6.5	6.5
90°	11.3	10.6	11.3	11.7	11.7	11.7	11.7	11.7
92.5°	30.8	26.4	23.5	21.3	21.0	19.9	20.1	19.6
95°	92.6	71.0	56.2	48.4	43.8	41.0	39.9	40.3
97.5°	216.0	176.7	138.5	113.0	96.1	87.4	82.3	79.3
100°	322.6	278.8	230.4	187.6	158.3	143.1	132.9	126.5
102.5°	392.4	382.5	347.1	301.8	269.9	244.0	231.2	222.6
105°	429.3	469.2	473.8	462.2	440.2	418.3	403.1	398.2
107.5°	402.7	462.9	499.6	516.7	519.5	518.3	515.2	508.7
110°	379.8	443.1	488.3	517.3	532.5	539.2	542.4	542.0



TEST NUMBER: P331650

CATALOG NUMBER: SA2XXRDIP-C485D330U835-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	358.9	419.6	467.9	501.2	522.3	533.5	539.5	541.4
115°	333.2	387.6	433.9	470.3	495.4	511.6	520.8	524.0
117.5°	313.8	361.6	403.6	437.7	463.3	480.5	490.1	492.8
120°	304.2	348.0	385.5	417.6	442.4	459.0	469.2	472.8
122.5°	296.6	336.7	372.2	401.2	423.4	439.8	448.9	451.8
125°	285.5	321.9	353.0	379.5	400.0	413.4	422.2	425.1
127.5°	274.5	307.5	336.8	361.2	379.1	391.7	399.3	401.6
130°	267.5	297.9	325.8	349.1	366.4	378.4	385.5	388.3
132.5°	260.7	288.8	314.5	336.4	353.4	365.4	371.9	374.5
135°	251.2	274.5	297.9	317.6	332.8	344.5	350.9	352.3
137.5°	243.7	263.2	281.7	298.9	312.8	322.8	328.4	330.5
140°	238.8	255.8	272.1	287.6	298.9	308.1	313.4	315.5
142.5°	234.9	249.3	263.3	276.3	287.0	295.4	300.1	300.5
145°	229.3	241.0	251.9	262.2	270.6	276.7	280.2	281.2
147.5°	225.0	234.2	242.7	250.2	257.2	262.0	264.4	265.1
150°	221.9	229.7	237.1	243.4	248.7	253.0	255.1	255.5
152.5°	218.8	226.0	232.3	237.8	242.0	245.6	247.2	247.3
155°	214.5	220.1	225.4	229.3	233.2	235.7	237.1	236.4
157.5°	209.5	214.2	218.6	221.7	224.4	226.5	227.1	227.1
160°	206.3	210.2	214.1	216.6	219.1	220.8	221.2	221.2
162.5°	203.2	206.6	209.9	211.8	214.3	215.5	215.8	215.5
165°	198.6	201.0	203.5	204.9	206.3	207.8	207.8	207.4
167.5°	194.1	196.0	197.7	199.0	199.6	200.4	200.3	199.9
170°	191.9	192.9	194.3	195.0	195.4	196.4	196.1	195.4
172.5°	189.3	190.1	191.2	191.6	192.0	192.5	192.1	191.7
175°	186.6	186.9	187.3	187.6	187.6	188.0	187.6	186.9
177.5°	184.6	184.6	184.9	184.9	184.9	184.9	184.6	184.0
180°	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7

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