

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: P332245-927

Luminaire Tested: **S123RDIP-S340D365U927-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332245-927
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-S340D365U927-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 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: 2069.7 lumens
Efficiency: N/A
Efficacy: 102.0 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: General Diffuse

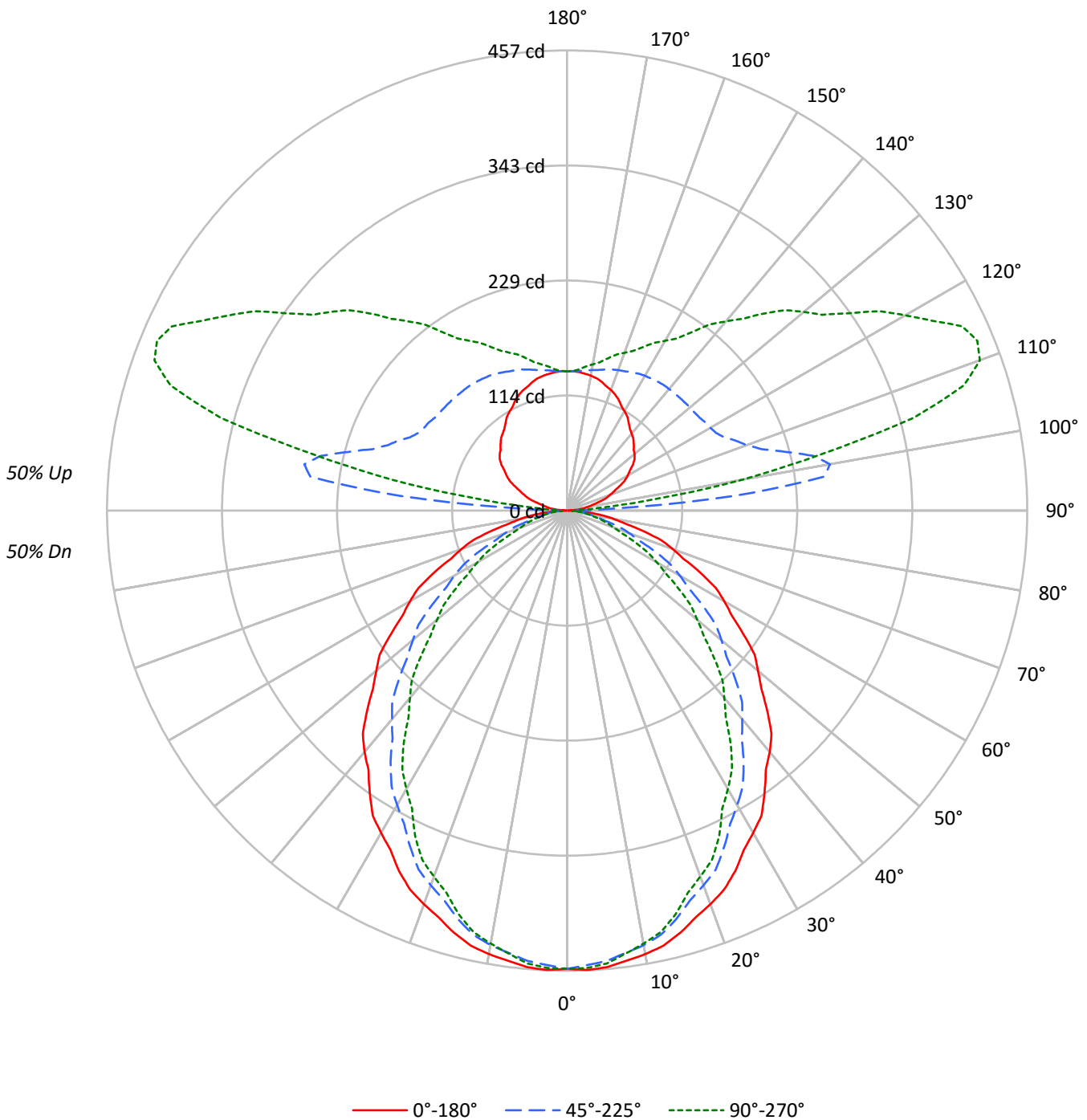
Input Watts (W): 20.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332245-927

CATALOG NUMBER: S123RDIP-S340D365U927-4F0-1E-UDD-F4

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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	98	94	90	87	90	87	84	81	73	71	69	61	60	58	50	49	48	43
2	90	82	76	71	82	76	71	67	65	61	58	54	51	49	44	42	41	36
3	82	73	65	60	75	67	61	56	57	53	49	48	45	42	40	37	35	31
4	75	64	57	51	69	60	53	48	51	46	42	43	39	36	35	33	30	27
5	69	58	50	44	63	54	46	41	46	40	36	39	35	31	32	29	27	23
6	64	52	44	38	59	48	41	36	41	36	32	35	31	28	29	26	24	21
7	59	47	39	33	54	44	37	32	38	32	28	32	28	25	27	24	21	19
8	55	43	35	30	50	40	33	28	34	29	25	29	25	22	25	21	19	17
9	51	39	31	26	47	36	30	25	32	26	22	27	23	20	23	20	17	15
10	48	36	29	24	44	33	27	23	29	24	20	25	21	18	21	18	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4899	4899	4899
5°	4917	4850	4878
10°	4889	4790	4773
15°	4837	4677	4628
20°	4765	4537	4431
25°	4691	4380	4240
30°	4593	4197	3967
35°	4491	4016	3720
40°	4398	3801	3413
45°	4276	3589	3136
50°	4141	3349	2825
55°	4003	3076	2535
60°	3877	2781	2217
65°	3713	2463	1897
70°	3509	2068	1533
75°	3211	1626	1443
80°	2858	1444	1327
85°	2421	1272	1186



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CATALOG NUMBER: S123RDIP-S340D365U927-4F0-1E-UDD-F4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	42.7	2.1
10°-20°	118.9	5.7
20°-30°	171.2	8.3
30°-40°	192.9	9.3
40°-50°	184.5	8.9
50°-60°	151.1	7.3
60°-70°	101.9	4.9
70°-80°	51.3	2.5
80°-90°	14.6	0.7
90°-100°	77.0	3.7
100°-110°	217.9	10.5
110°-120°	214.4	10.4
120°-130°	171.0	8.3
130°-140°	134.8	6.5
140°-150°	100.6	4.9
150°-160°	70.1	3.4
160°-170°	41.2	2.0
170°-180°	13.4	0.6
0°-30°	332.9	16.1
0°-40°	525.7	25.4
0°-60°	861.4	41.6
0°-90°	1029.2	49.7
90°-120°	509.3	24.6
90°-150°	915.7	44.2
90°-180°	1040.0	50.2
0°-180°	2069.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	455	455	455	455	455	
5°	455	453	449	452	452	43
15°	434	430	420	418	415	122
25°	395	385	369	361	357	182
35°	342	328	306	290	283	214
45°	281	264	236	215	206	217
55°	213	195	164	143	135	191
65°	146	125	97	79	74	144
75°	77	59	39	36	35	82
85°	20	12	10	10	10	22
90°	1	3	7	8	8	2
95°	10	31	166	48	32	10
105°	32	48	225	394	356	35
115°	57	72	172	378	433	57
125°	80	94	161	291	342	71
135°	94	112	158	240	277	72
145°	107	122	156	197	216	67
155°	121	131	152	172	179	56
165°	132	136	145	154	156	37
175°	138	138	139	141	141	13
180°	138	138	138	138	138	



TEST NUMBER: P332245-927

CATALOG NUMBER: S123RDIP-S340D365U927-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	455.1	455.1	455.1	455.1	455.1	455.1	455.1	455.1	455.1	455.1	455.1
2.5°	456.6	456.3	456.1	455.8	455.6	455.0	454.2	453.4	452.7	451.9	452.6
5°	455.1	454.7	454.3	453.9	453.4	452.8	451.8	450.8	449.8	448.9	449.6
7.5°	450.9	450.4	450.0	449.6	449.2	448.3	447.0	445.8	444.4	443.1	443.5
10°	447.3	446.8	446.2	445.7	445.0	444.0	442.6	441.1	439.6	438.2	438.2
12.5°	442.4	441.7	441.1	440.5	439.8	438.6	436.7	435.0	433.2	431.3	431.3
15°	434.1	433.2	432.3	431.3	430.5	428.9	426.6	424.3	422.0	419.7	419.3
17.5°	423.7	422.6	421.6	420.5	419.5	417.5	414.5	411.6	408.8	405.8	405.0
20°	416.0	414.7	413.4	412.1	410.7	408.5	405.4	402.3	399.2	396.1	395.0
22.5°	407.4	405.9	404.4	402.9	401.4	399.0	395.7	392.4	389.0	385.7	384.4
25°	395.0	392.9	390.9	388.8	386.7	383.8	380.1	376.3	372.5	368.8	367.0
27.5°	379.9	377.6	375.3	373.0	370.7	367.6	363.4	359.1	354.9	350.7	348.3
30°	369.5	367.0	364.6	362.1	359.7	356.1	351.5	346.9	342.3	337.7	334.9
32.5°	359.2	356.3	353.6	350.8	348.0	344.2	339.3	334.5	329.6	324.7	321.7
35°	341.8	338.8	335.9	333.0	330.0	326.0	320.9	315.8	310.7	305.6	302.1
37.5°	324.2	320.9	317.7	314.4	311.1	306.7	301.3	295.9	290.5	285.0	281.1
40°	313.0	309.4	305.8	302.2	298.6	293.8	288.0	282.2	276.4	270.5	266.3
42.5°	300.3	296.7	293.1	289.5	285.9	281.1	275.0	269.0	263.0	257.0	252.3
45°	280.9	277.2	273.5	269.8	266.1	261.1	254.8	248.5	242.2	235.8	231.2
47.5°	261.5	257.5	253.3	249.3	245.3	240.1	233.8	227.4	221.2	214.8	209.8
50°	247.3	243.4	239.6	235.8	231.9	226.6	220.0	213.3	206.7	200.0	195.0
52.5°	234.6	230.4	226.2	222.0	217.9	212.5	205.9	199.3	192.7	186.2	180.9
55°	213.3	209.3	205.3	201.3	197.3	191.8	184.8	177.8	170.9	163.9	159.1
57.5°	193.7	189.3	185.0	180.5	176.2	170.5	163.5	156.5	149.5	142.5	138.0
60°	180.1	175.6	171.1	166.6	162.1	156.5	149.6	142.8	136.0	129.2	124.8
62.5°	166.5	162.0	157.5	153.0	148.5	142.8	136.0	129.2	122.4	115.6	111.5
65°	145.8	141.3	136.8	132.3	127.8	122.3	115.9	109.5	103.1	96.7	92.7
67.5°	125.1	120.5	115.9	111.4	106.8	101.5	95.3	89.2	83.0	76.9	73.9
70°	111.5	107.0	102.6	98.2	93.8	88.6	82.9	77.2	71.5	65.7	62.8
72.5°	97.9	93.6	89.2	84.8	80.4	75.7	70.4	65.2	60.0	54.7	52.4
75°	77.2	73.2	69.2	65.4	61.4	57.2	52.7	48.2	43.6	39.1	38.3
77.5°	58.2	54.7	51.1	47.5	44.0	40.8	37.9	34.9	32.1	29.2	28.8
80°	46.1	42.8	39.5	36.0	32.7	30.2	28.4	26.7	25.0	23.3	23.0
82.5°	34.6	31.7	28.8	25.9	23.0	21.2	20.4	19.6	18.8	17.9	17.7
85°	19.6	17.7	15.9	14.2	12.4	11.3	11.1	10.9	10.6	10.3	10.1
87.5°	7.2	6.6	5.9	5.4	4.8	4.6	4.8	4.9	5.1	5.2	5.1
90°	0.6	1.1	1.7	2.5	3.1	3.6	4.5	5.3	6.2	7.0	6.7
92.5°	3.5	5.1	7.5	9.7	12.0	16.2	23.5	35.6	47.4	43.0	32.5
95°	9.5	10.4	13.5	18.2	25.5	36.4	60.2	101.9	147.8	166.0	134.7
97.5°	16.2	16.5	18.9	23.1	30.3	42.1	64.8	111.8	188.4	257.3	275.2
100°	20.8	21.0	23.0	26.9	33.6	44.5	64.1	105.5	179.2	265.1	320.3
102.5°	25.4	25.9	27.6	31.4	37.4	47.5	65.0	100.1	165.7	250.6	322.5
105°	32.5	33.4	35.0	38.3	43.6	52.4	67.5	96.3	149.2	225.1	305.4
107.5°	40.0	40.8	42.5	45.7	50.7	58.8	72.1	96.0	138.7	202.6	275.5
110°	45.3	46.2	47.6	50.7	55.5	63.3	75.9	97.1	134.7	189.8	256.7



TEST NUMBER: P332245-927

CATALOG NUMBER: S123RDIP-S340D365U927-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	50.3	51.1	52.5	55.6	60.4	68.0	79.7	99.4	132.4	181.3	240.3
115°	57.4	58.5	60.2	63.0	67.7	75.3	86.0	103.0	131.6	172.1	220.6
117.5°	64.5	65.8	67.2	69.8	75.1	82.1	92.6	107.8	132.1	166.8	208.7
120°	69.4	70.3	71.7	74.5	79.8	86.7	96.9	111.4	133.0	164.3	202.4
122.5°	73.7	74.5	75.9	79.0	84.1	91.5	101.3	114.8	134.5	162.8	197.3
125°	79.8	80.3	82.0	85.1	90.4	98.0	107.8	120.1	136.9	160.7	190.7
127.5°	84.4	85.2	87.4	90.5	96.3	103.9	113.4	124.5	139.6	159.7	184.8
130°	87.4	88.2	90.7	94.0	100.0	107.5	116.8	127.4	141.4	159.0	181.6
132.5°	89.6	90.6	93.4	97.4	103.3	110.7	119.6	130.1	142.8	158.8	178.8
135°	93.5	94.6	97.7	101.9	107.8	115.3	124.0	133.6	144.7	158.4	175.0
137.5°	97.2	98.4	101.4	105.8	111.7	118.7	127.1	136.1	146.1	157.8	171.7
140°	99.7	101.1	103.9	108.4	113.9	121.0	129.0	137.4	146.9	157.6	169.6
142.5°	102.3	103.5	106.5	110.6	116.2	122.7	130.6	138.8	147.7	157.2	167.9
145°	106.6	107.5	110.0	114.2	119.0	125.4	132.7	140.2	148.1	156.5	165.4
147.5°	111.1	111.5	114.0	117.6	122.2	127.7	134.4	141.2	148.1	155.4	163.1
150°	113.9	114.2	116.5	120.1	124.0	129.0	135.5	141.4	148.1	154.6	161.5
152.5°	116.8	116.9	119.1	122.3	125.8	130.6	136.2	141.8	147.4	153.4	159.7
155°	121.2	121.2	122.9	125.7	128.8	132.7	137.4	142.0	146.7	151.5	157.0
157.5°	124.7	124.9	126.3	128.7	131.3	134.4	138.2	142.2	145.8	149.7	154.0
160°	127.4	127.4	128.5	130.7	132.7	135.5	138.9	142.2	145.3	148.4	152.0
162.5°	129.4	129.4	130.3	132.1	133.8	136.2	139.1	142.0	144.4	147.0	150.0
165°	132.4	132.1	132.7	134.1	135.2	137.2	139.4	141.4	143.1	145.0	147.3
167.5°	134.7	134.4	134.7	135.7	136.5	137.8	139.3	140.9	141.7	143.0	144.7
170°	136.0	135.5	135.8	136.6	137.2	137.8	139.1	140.2	140.9	141.6	143.1
172.5°	137.0	136.6	136.7	137.3	137.6	137.9	139.1	140.1	140.1	140.5	141.5
175°	138.0	137.8	137.4	138.0	138.0	138.3	138.9	139.4	139.1	139.1	139.7
177.5°	138.6	138.3	138.1	138.3	138.3	138.3	138.6	138.9	138.6	138.3	138.6
180°	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3



TEST NUMBER: P332245-927

CATALOG NUMBER: S123RDIP-S340D365U927-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	455.1	455.1	455.1	455.1	455.1	455.1	455.1	455.1
2.5°	453.3	454.0	454.8	455.0	455.0	454.8	454.6	454.6
5°	450.4	451.1	451.8	452.1	451.9	451.8	451.6	451.5
7.5°	444.0	444.4	444.8	444.9	444.6	444.3	444.0	443.8
10°	438.3	438.4	438.5	438.3	437.9	437.5	437.0	436.7
12.5°	431.3	431.2	431.2	430.9	430.4	429.9	429.4	429.0
15°	418.8	418.4	418.0	417.6	417.0	416.4	415.8	415.3
17.5°	404.1	403.2	402.3	401.5	400.6	399.7	398.9	398.1
20°	394.0	392.8	391.8	390.8	389.8	388.8	387.9	386.8
22.5°	383.1	381.8	380.4	379.3	378.3	377.5	376.5	375.7
25°	365.3	363.6	361.9	360.5	359.7	358.8	357.8	357.0
27.5°	345.9	343.6	341.2	339.3	337.9	336.5	335.2	333.7
30°	332.2	329.4	326.6	324.6	323.2	321.9	320.6	319.2
32.5°	318.6	315.6	312.5	310.3	309.0	307.6	306.2	304.8
35°	298.6	295.0	291.5	289.0	287.6	286.1	284.6	283.1
37.5°	277.0	273.0	269.0	266.1	264.3	262.4	260.6	258.8
40°	262.1	257.8	253.5	250.4	248.5	246.7	244.8	242.9
42.5°	247.6	243.0	238.4	235.2	233.5	231.8	230.1	228.4
45°	226.5	221.8	217.1	213.8	211.9	209.9	207.9	206.0
47.5°	204.6	199.6	194.5	191.1	189.3	187.6	185.8	184.0
50°	189.9	184.8	179.7	176.3	174.4	172.5	170.6	168.7
52.5°	175.6	170.3	165.1	161.6	159.9	158.2	156.5	154.8
55°	154.4	149.6	144.9	141.6	140.1	138.4	136.7	135.1
57.5°	133.5	129.0	124.5	121.5	120.2	118.7	117.4	116.0
60°	120.3	115.9	111.5	108.5	107.2	105.8	104.4	103.0
62.5°	107.3	103.1	98.9	96.1	94.7	93.2	91.7	90.3
65°	88.6	84.7	80.6	78.2	77.2	76.4	75.5	74.5
67.5°	70.9	67.9	64.9	62.9	61.9	61.0	60.0	59.1
70°	60.0	57.1	54.2	52.4	51.4	50.5	49.6	48.7
72.5°	50.1	47.8	45.4	44.0	43.6	43.3	42.9	42.5
75°	37.5	36.7	35.8	35.3	35.2	35.0	34.9	34.7
77.5°	28.3	27.8	27.4	27.1	26.9	26.8	26.6	26.5
80°	22.7	22.5	22.3	22.1	21.9	21.7	21.5	21.4
82.5°	17.4	17.2	17.0	16.8	16.8	16.7	16.7	16.7
85°	10.0	9.8	9.7	9.6	9.6	9.6	9.6	9.6
87.5°	5.1	5.1	5.1	5.1	5.0	5.0	5.0	4.8
90°	7.0	7.3	7.5	8.1	7.8	8.1	8.4	8.1
92.5°	23.6	18.7	16.5	15.1	14.6	13.7	14.0	13.5
95°	100.8	68.3	53.5	43.4	38.1	35.6	33.6	32.5
97.5°	251.2	201.2	165.1	131.7	111.0	98.4	90.8	88.4
100°	330.0	307.4	274.6	234.9	206.6	186.2	175.2	175.5
102.5°	356.2	355.5	336.4	311.2	289.2	273.1	264.0	257.5
105°	363.9	391.9	397.2	390.0	377.1	366.5	357.5	356.1
107.5°	341.8	387.3	411.9	421.8	422.1	418.4	415.4	412.9
110°	320.8	372.3	407.6	427.2	435.1	437.3	436.7	436.2



TEST NUMBER: P332245-927

CATALOG NUMBER: S123RDIP-S340D365U927-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	300.0	352.6	392.1	417.3	431.7	438.6	440.8	440.8
115°	272.4	321.1	362.3	392.8	413.8	426.0	431.7	433.1
117.5°	252.4	294.5	331.4	362.3	384.3	398.4	406.4	408.3
120°	241.9	279.6	313.2	341.5	363.6	379.3	386.0	387.7
122.5°	233.6	267.8	298.9	325.2	344.8	358.9	366.3	368.4
125°	222.5	253.1	280.0	302.4	320.3	332.6	339.6	341.5
127.5°	212.9	240.1	264.4	284.8	300.7	311.2	317.6	319.3
130°	206.8	232.1	254.8	273.8	288.6	298.7	304.6	306.8
132.5°	201.3	224.4	245.6	263.7	277.7	287.7	292.9	294.5
135°	193.7	213.6	231.8	247.7	261.5	269.9	274.9	276.9
137.5°	186.8	203.1	218.8	232.7	244.2	252.7	256.9	258.3
140°	182.8	197.1	210.5	222.5	233.2	241.1	245.5	245.3
142.5°	179.0	191.2	202.9	213.3	222.4	229.4	233.4	233.1
145°	174.4	183.6	192.6	200.7	207.7	213.6	215.9	216.4
147.5°	170.6	178.0	185.2	191.0	196.3	200.3	202.4	202.6
150°	167.9	174.4	180.3	185.6	189.8	192.9	194.6	194.6
152.5°	165.5	171.0	176.3	180.7	183.9	186.8	187.8	187.8
155°	161.8	166.3	170.5	173.8	176.3	178.6	179.2	179.4
157.5°	157.9	161.6	164.9	167.5	169.7	171.3	171.8	171.7
160°	155.7	158.8	161.5	163.5	165.4	167.2	167.2	166.8
162.5°	153.0	155.6	158.2	159.9	161.2	162.6	162.6	162.4
165°	149.5	151.1	153.1	154.6	155.7	156.8	156.5	156.5
167.5°	146.5	147.7	148.9	149.9	150.4	151.1	150.9	150.9
170°	144.4	145.3	146.4	146.9	147.3	147.8	147.5	147.5
172.5°	142.7	143.3	144.2	144.5	144.6	145.1	144.7	144.4
175°	140.2	140.5	141.1	141.1	141.1	141.4	141.1	140.9
177.5°	138.7	138.9	139.2	139.2	138.9	139.2	138.7	138.7
180°	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3

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