

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: P331587-930

Luminaire Tested: **S122DIW-S1005D435U930-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331587-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S1005D435U930-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 435 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4701.6 lumens
Efficiency: N/A
Efficacy: 89.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

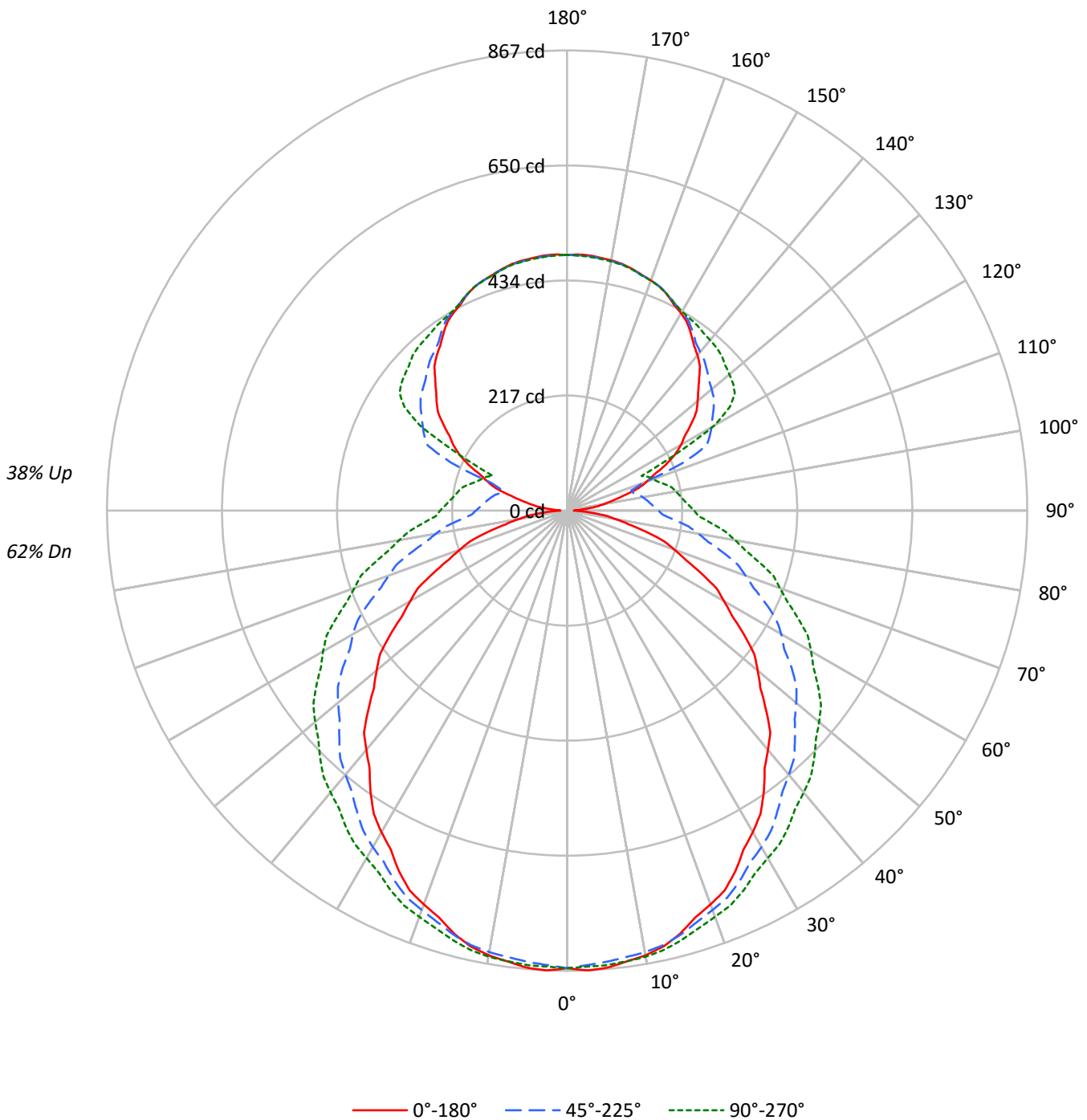
Input Watts (W): 52.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P331587-930

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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67
1	99	93	89	85	92	87	83	80	76	73	70	66	64	61	57	55	53
2	89	81	74	68	83	75	69	64	66	61	57	57	53	50	49	46	43
3	81	70	62	55	75	66	58	53	57	52	47	50	45	41	43	39	36
4	74	62	53	46	68	58	50	44	51	44	39	44	39	35	38	34	31
5	68	55	46	40	63	52	44	38	45	39	34	39	34	30	34	30	26
6	62	49	40	34	58	46	38	32	41	34	29	35	30	26	31	26	23
7	57	44	36	30	53	42	34	28	37	30	26	32	27	23	28	24	20
8	53	40	32	26	50	38	30	25	33	27	23	29	24	20	25	21	18
9	50	37	29	23	46	35	27	22	31	25	20	27	22	18	23	19	16
10	46	34	26	21	43	32	25	20	28	22	18	25	20	16	22	18	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13919	13919	13919
5°	13988	13400	13350
10°	13899	13004	12858
15°	13709	12584	12339
20°	13467	12136	11842
25°	13227	11701	11390
30°	12890	11257	10936
35°	12550	10828	10617
40°	12191	10461	10297
45°	11850	10133	10022
50°	11485	9837	9754
55°	11101	9519	9479
60°	10631	9187	9189
65°	10145	8801	8846
70°	9596	8384	8474
75°	8897	7976	8132
80°	7792	7559	7784
85°	6733	7197	7515



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.7	1.7
10°-20°	234.3	5.0
20°-30°	355.0	7.6
30°-40°	432.4	9.2
40°-50°	465.2	9.9
50°-60°	451.7	9.6
60°-70°	394.4	8.4
70°-80°	303.7	6.5
80°-90°	205.0	4.4
90°-100°	156.5	3.3
100°-110°	161.4	3.4
110°-120°	225.2	4.8
120°-130°	297.7	6.3
130°-140°	292.3	6.2
140°-150°	259.7	5.5
150°-160°	206.6	4.4
160°-170°	133.1	2.8
170°-180°	45.8	1.0
0°-30°	670.9	14.3
0°-40°	1103.3	23.5
0°-60°	2020.2	43.0
0°-90°	2923.3	62.2
90°-120°	543.1	11.6
90°-150°	1392.8	29.6
90°-180°	1778.0	37.8
0°-180°	4701.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	862	862	862	862	862	
5°	865	861	853	860	860	82
15°	825	827	827	838	837	232
25°	750	759	770	784	788	345
35°	646	667	691	717	727	404
45°	530	564	607	644	658	409
55°	406	452	516	559	577	363
65°	277	339	412	462	480	275
75°	154	224	304	355	374	163
85°	45	123	202	253	272	48
90°	13	89	172	222	239	9
95°	33	82	157	205	221	36
105°	112	155	129	174	191	120
115°	205	228	290	172	155	202
125°	286	293	337	372	385	255
135°	352	358	373	402	412	272
145°	407	407	412	422	427	255
155°	448	445	449	451	448	206
165°	472	470	471	473	471	133
175°	483	480	481	483	480	46
180°	482	482	482	482	482	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1
2.5°	867.2	866.5	865.8	865.1	864.5	863.3	861.8	860.2	858.7	857.1	858.3
5°	864.6	863.8	863.0	862.1	861.3	860.1	858.4	856.7	855.1	853.4	855.1
7.5°	856.9	856.3	855.7	855.2	854.7	853.8	852.5	851.2	849.9	848.6	850.6
10°	850.9	850.4	849.8	849.2	848.6	848.0	847.2	846.3	845.5	844.7	846.9
12.5°	840.9	841.0	841.1	841.2	841.3	841.1	840.5	839.8	839.3	838.6	840.9
15°	824.7	825.2	825.7	826.3	826.9	827.1	827.1	827.1	827.1	827.1	829.6
17.5°	803.6	804.9	806.0	807.1	808.3	809.3	810.2	811.1	812.0	812.9	815.5
20°	789.7	791.1	792.5	793.9	795.2	796.5	797.6	798.7	799.8	801.0	804.0
22.5°	774.7	776.2	777.9	779.5	781.1	782.7	784.2	785.8	787.3	788.9	792.0
25°	749.7	751.6	753.6	755.5	757.5	759.7	762.1	764.7	767.2	769.6	773.0
27.5°	719.7	722.8	726.0	729.2	732.4	735.4	738.3	741.3	744.2	747.2	751.4
30°	699.7	703.3	706.9	710.5	714.1	717.8	721.4	725.0	728.6	732.2	736.6
32.5°	677.7	681.8	685.8	689.9	693.9	698.1	702.4	706.6	710.9	715.2	720.3
35°	646.0	650.7	655.4	660.1	664.9	669.8	675.1	680.4	685.7	691.0	697.1
37.5°	611.5	616.9	622.4	627.8	633.2	639.4	646.2	653.1	659.9	666.8	673.5
40°	588.5	594.6	600.7	606.8	612.9	619.7	627.2	634.7	642.2	649.7	657.0
42.5°	566.6	572.6	578.7	584.8	590.9	598.3	606.9	615.6	624.1	632.8	640.6
45°	529.8	537.3	544.8	552.3	559.8	568.3	578.1	587.8	597.5	607.2	615.9
47.5°	493.6	501.7	509.9	518.0	526.2	536.0	547.4	558.7	570.1	581.5	590.5
50°	468.6	477.2	485.8	494.4	503.0	513.6	526.0	538.5	551.0	563.5	573.0
52.5°	444.6	453.6	462.7	471.7	480.8	491.9	505.0	518.2	531.3	544.5	554.2
55°	406.1	416.0	426.1	436.1	446.1	458.3	472.7	487.1	501.6	516.0	526.0
57.5°	368.1	379.4	390.6	401.9	413.2	426.2	440.9	455.6	470.3	485.0	495.8
60°	341.1	353.0	365.0	376.9	388.9	402.8	418.6	434.4	450.2	466.0	476.6
62.5°	317.2	329.5	341.9	354.2	366.6	380.7	396.6	412.4	428.3	444.1	455.3
65°	277.4	291.0	304.6	318.2	331.8	346.8	363.2	379.5	395.9	412.3	423.7
67.5°	240.9	255.1	269.3	283.6	297.7	313.2	330.0	346.8	363.5	380.3	391.8
70°	214.9	229.3	243.8	258.2	272.6	288.5	305.7	322.9	340.1	357.3	369.2
72.5°	190.9	205.8	220.7	235.5	250.5	266.6	284.1	301.5	318.9	336.4	348.1
75°	153.7	169.3	184.7	200.3	215.9	232.5	250.3	268.1	285.8	303.6	315.5
77.5°	117.7	134.0	150.3	166.5	182.8	199.9	218.0	236.0	254.0	272.1	284.1
80°	93.7	110.6	127.6	144.6	161.4	179.0	197.0	215.1	233.1	251.1	262.8
82.5°	73.7	90.4	107.1	123.8	140.6	158.1	176.3	194.6	212.9	231.1	242.8
85°	45.0	62.2	79.4	96.6	113.8	131.3	149.1	166.9	184.7	202.4	214.1
87.5°	24.5	41.3	58.0	74.7	91.4	108.8	126.6	144.6	162.4	180.3	191.8
90°	12.9	29.8	46.7	63.7	80.6	98.3	116.8	135.1	153.5	171.9	183.4
92.5°	18.5	33.4	48.3	63.3	78.2	94.3	111.8	129.2	146.6	164.0	175.1
95°	32.6	43.1	53.6	64.2	74.6	88.5	105.7	122.9	140.1	157.3	168.2
97.5°	53.7	58.1	62.5	66.9	71.3	82.2	99.4	116.7	133.9	151.2	161.8
100°	70.4	70.1	69.8	69.4	69.1	77.4	94.2	111.0	127.9	144.8	155.7
102.5°	87.8	95.0	102.1	109.3	116.3	122.0	126.1	130.2	134.3	138.4	149.2
105°	112.2	122.5	132.9	143.3	153.7	155.6	148.8	142.1	135.4	128.7	139.3
107.5°	141.5	149.7	158.0	166.3	174.6	173.1	161.5	150.0	138.5	126.9	135.4
110°	159.4	166.6	173.7	180.9	188.1	187.3	178.6	169.7	160.9	152.2	153.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	177.2	183.3	189.4	195.5	201.6	208.4	215.8	223.2	230.6	238.1	218.7
115°	205.4	209.8	214.1	218.5	222.8	232.3	246.7	261.1	275.6	290.0	262.4
117.5°	229.3	232.8	236.2	239.7	243.1	251.4	264.2	277.1	290.0	302.9	302.4
120°	247.7	250.0	252.3	254.5	256.7	264.2	276.6	289.2	301.7	314.1	322.9
122.5°	263.3	265.0	266.6	268.3	269.9	276.8	288.7	300.7	312.7	324.6	332.7
125°	285.8	286.8	287.8	288.9	289.8	295.5	305.9	316.3	326.6	337.0	345.0
127.5°	307.4	308.2	309.0	309.9	310.7	315.3	323.5	331.7	340.1	348.3	356.0
130°	321.0	322.0	322.9	323.9	324.8	328.6	335.3	342.0	348.7	355.4	362.9
132.5°	334.9	335.7	336.5	337.3	338.0	341.1	346.4	351.8	357.2	362.5	369.7
135°	351.8	353.0	354.3	355.6	356.8	359.1	362.6	366.1	369.6	373.0	379.6
137.5°	370.1	371.0	371.8	372.6	373.4	374.8	376.8	378.8	380.8	382.9	388.7
140°	382.1	382.5	382.8	383.2	383.5	384.3	385.8	387.2	388.6	390.0	395.2
142.5°	392.2	392.5	392.7	393.0	393.3	394.0	395.1	396.2	397.2	398.4	402.5
145°	406.7	406.6	406.5	406.4	406.3	407.0	408.3	409.6	410.9	412.2	414.4
147.5°	420.4	420.1	419.8	419.6	419.2	419.7	421.0	422.3	423.6	424.9	425.6
150°	429.3	428.8	428.2	427.7	427.1	427.5	428.8	430.0	431.2	432.4	432.9
152.5°	436.8	436.3	435.6	435.0	434.4	434.7	435.9	437.1	438.2	439.4	439.9
155°	447.8	447.1	446.4	445.7	445.0	445.2	446.1	446.9	447.9	448.8	449.3
157.5°	456.3	455.8	455.2	454.6	454.0	454.0	454.7	455.3	456.0	456.6	457.1
160°	461.4	460.9	460.5	460.0	459.5	459.5	460.0	460.5	460.9	461.4	461.9
162.5°	465.9	465.4	464.9	464.5	464.0	464.0	464.3	464.7	465.1	465.5	466.1
165°	471.8	471.4	470.9	470.4	469.9	469.9	470.1	470.3	470.6	470.8	471.3
167.5°	476.3	475.8	475.4	474.9	474.4	474.3	474.5	474.7	475.0	475.2	475.7
170°	478.8	478.3	477.8	477.4	477.0	476.8	477.0	477.1	477.3	477.4	477.9
172.5°	480.5	480.0	479.6	479.1	478.6	478.5	478.6	478.7	478.9	479.1	479.6
175°	482.7	482.1	481.5	481.0	480.5	480.3	480.5	480.6	480.7	480.9	481.4
177.5°	483.0	482.6	482.1	481.7	481.3	481.0	481.1	481.2	481.3	481.3	481.8
180°	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1
2.5°	859.3	860.5	861.6	861.9	861.4	861.0	860.5	860.1
5°	856.7	858.4	860.1	860.7	860.5	860.2	859.9	859.7
7.5°	852.6	854.7	856.6	857.5	857.2	857.0	856.6	856.4
10°	849.1	851.3	853.5	854.5	854.2	853.9	853.7	853.4
12.5°	843.1	845.3	847.5	848.5	848.2	847.9	847.7	847.4
15°	832.2	834.6	837.1	838.3	838.0	837.7	837.4	837.1
17.5°	818.2	820.8	823.4	824.7	824.7	824.7	824.7	824.7
20°	807.0	810.1	813.1	814.6	814.6	814.6	814.6	814.6
22.5°	795.0	798.1	801.1	802.9	803.3	803.8	804.2	804.7
25°	776.3	779.7	783.0	785.1	785.9	786.8	787.6	788.4
27.5°	755.6	759.9	764.1	766.5	767.1	767.7	768.3	768.9
30°	741.1	745.5	750.0	752.6	753.4	754.2	755.1	755.9
32.5°	725.5	730.5	735.6	738.9	740.5	741.9	743.5	744.9
35°	703.2	709.3	715.4	719.4	721.4	723.3	725.3	727.2
37.5°	680.3	687.1	693.8	698.2	700.3	702.4	704.4	706.5
40°	664.1	671.4	678.6	683.5	686.0	688.4	691.0	693.5
42.5°	648.5	656.4	664.3	669.4	672.0	674.5	676.9	679.5
45°	624.4	633.1	641.6	647.3	650.1	652.9	655.7	658.4
47.5°	599.5	608.5	617.5	623.5	626.6	629.7	632.7	635.8
50°	582.4	591.8	601.3	607.6	610.6	613.6	616.7	619.7
52.5°	563.9	573.5	583.2	589.6	592.9	596.2	599.5	602.8
55°	536.1	546.0	556.0	562.8	566.4	570.1	573.6	577.2
57.5°	506.6	517.4	528.2	535.3	539.0	542.7	546.3	550.0
60°	487.1	497.7	508.3	515.5	519.3	523.3	527.2	531.0
62.5°	466.5	477.7	488.9	496.4	500.0	503.7	507.4	511.0
65°	435.1	446.5	457.9	465.4	469.0	472.5	476.2	479.8
67.5°	403.3	414.8	426.3	434.0	437.7	441.5	445.3	449.1
70°	381.2	393.1	405.1	412.7	416.0	419.4	422.7	426.1
72.5°	359.8	371.5	383.2	391.1	395.1	399.1	403.1	407.1
75°	327.5	339.4	351.4	359.1	362.7	366.4	370.0	373.6
77.5°	295.9	307.8	319.7	327.6	331.4	335.3	339.2	343.1
80°	274.4	286.2	297.8	305.6	309.5	313.3	317.2	321.1
82.5°	254.5	266.1	277.8	285.4	289.1	292.8	296.4	300.1
85°	225.8	237.4	249.1	256.8	260.7	264.6	268.5	272.4
87.5°	203.1	214.5	225.9	233.4	237.0	240.6	244.2	247.8
90°	194.9	206.4	217.8	225.3	228.9	232.4	235.8	239.3
92.5°	186.2	197.3	208.4	215.6	219.1	222.5	225.9	229.3
95°	179.1	190.1	201.1	208.1	211.4	214.7	217.9	221.1
97.5°	172.3	182.9	193.5	200.5	203.8	207.2	210.6	213.9
100°	166.6	177.5	188.4	195.4	198.6	201.9	205.0	208.3
102.5°	160.1	171.0	181.8	188.8	192.2	195.4	198.7	201.9
105°	149.9	160.5	171.0	178.0	181.3	184.7	188.1	191.4
107.5°	143.9	152.4	160.8	166.7	170.1	173.5	176.8	180.2
110°	154.5	155.6	156.8	159.0	162.4	165.8	169.1	172.4



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CATALOG NUMBER: S122DIW-S1005D435U930-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	199.3	179.9	160.5	152.5	155.8	159.1	162.4	165.8
115°	234.9	207.4	179.9	164.9	162.3	159.8	157.3	154.7
117.5°	302.0	301.5	301.1	293.1	277.6	262.1	246.6	231.1
120°	331.6	340.3	348.9	349.6	342.3	334.8	327.4	320.0
122.5°	340.8	348.9	357.0	361.4	362.0	362.6	363.1	363.7
125°	353.0	361.1	369.1	374.5	377.2	379.9	382.7	385.4
127.5°	363.6	371.3	379.0	384.1	386.5	389.1	391.6	394.0
130°	370.5	378.0	385.5	390.3	392.4	394.6	396.7	398.8
132.5°	376.8	384.0	391.2	395.8	397.9	400.1	402.3	404.4
135°	386.2	392.8	399.4	403.7	405.9	407.9	410.0	412.1
137.5°	394.6	400.5	406.3	410.1	411.7	413.3	414.9	416.5
140°	400.3	405.4	410.6	413.8	415.1	416.3	417.6	418.9
142.5°	406.7	410.9	415.1	417.7	418.7	419.8	420.9	421.9
145°	416.6	418.9	421.1	422.7	423.7	424.7	425.7	426.6
147.5°	426.2	426.8	427.5	427.9	428.3	428.6	428.9	429.3
150°	433.4	433.8	434.3	434.4	434.0	433.6	433.2	432.8
152.5°	440.3	440.8	441.3	441.2	440.8	440.3	439.7	439.2
155°	449.8	450.2	450.7	450.6	450.0	449.4	448.7	448.2
157.5°	457.7	458.2	458.8	458.7	458.1	457.5	456.9	456.3
160°	462.3	462.8	463.3	463.2	462.7	462.1	461.5	461.1
162.5°	466.6	467.2	467.7	467.6	466.9	466.3	465.6	465.0
165°	471.9	472.4	473.0	473.0	472.4	471.9	471.3	470.8
167.5°	476.3	476.8	477.4	477.3	476.5	475.9	475.2	474.5
170°	478.5	479.1	479.6	479.5	478.8	478.1	477.4	476.7
172.5°	480.1	480.7	481.3	481.2	480.5	479.8	479.1	478.4
175°	482.0	482.5	483.1	483.0	482.2	481.4	480.6	479.9
177.5°	482.2	482.6	483.1	483.0	482.4	481.8	481.3	480.8
180°	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6

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