

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: P243278

Luminaire Tested: **S122RDR-H485D940-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243278
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-68)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122RDR-H485D940-X4F0-XX-UDD-A-W
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1531.0 lumens
Efficiency: N/A
Efficacy: 89.0 lumens/watt
Spacing Criteria (0/90/45): 0.81 / 1.17 / 0.99
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')
CIE Type: Direct

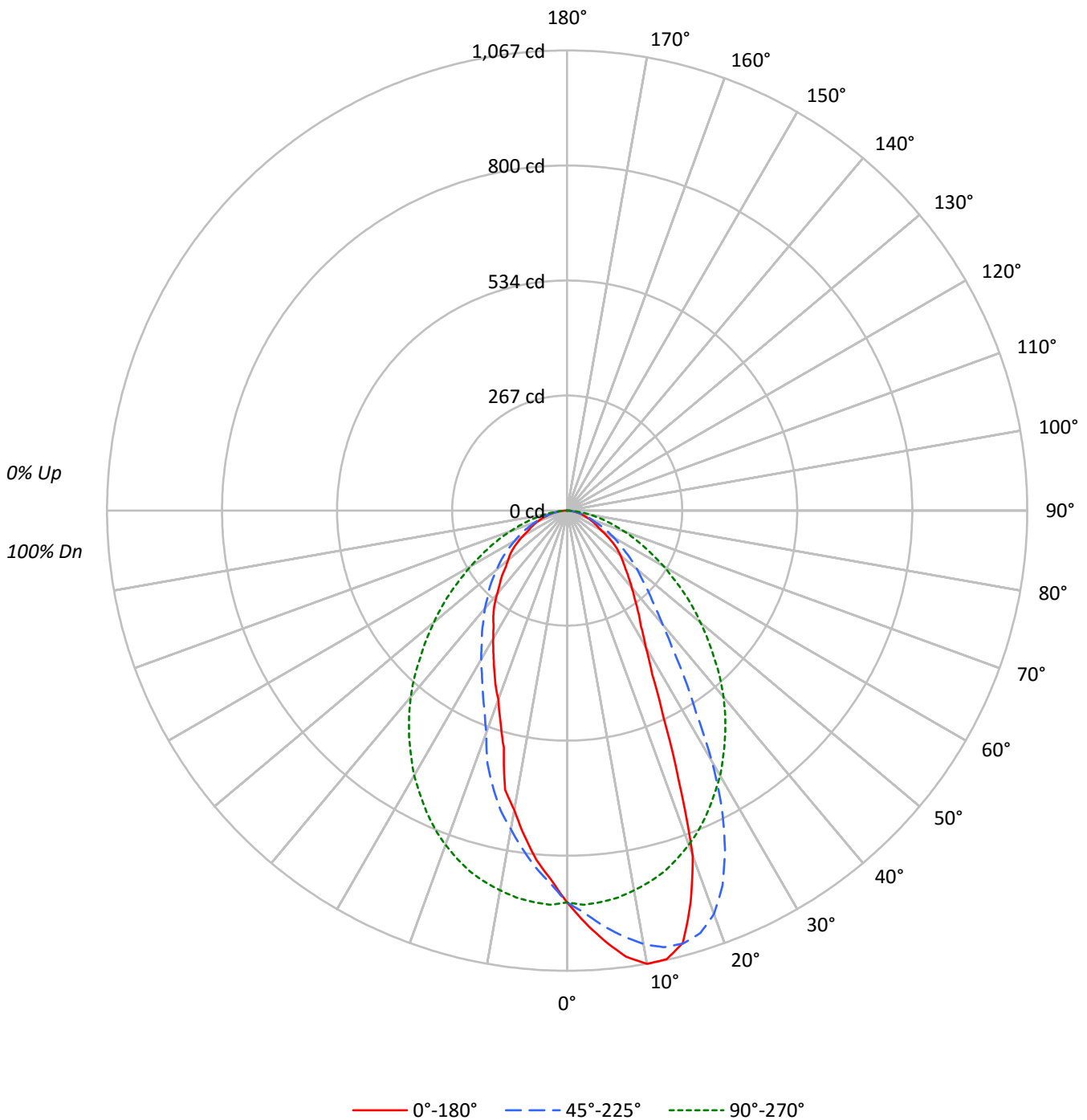
Input Watts (W): 17.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P243278

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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	110	106	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87
2	102	95	89	84	100	93	88	83	90	85	81	86	83	79	84	80	78	76
3	94	85	78	72	92	84	77	72	81	75	70	78	73	69	76	72	68	66
4	87	77	69	63	85	76	68	63	73	67	62	71	65	61	69	64	60	58
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38
9	62	50	43	38	61	50	42	37	48	42	37	47	41	37	46	41	37	35
10	59	47	39	35	58	46	39	35	45	39	34	44	38	34	44	38	34	33

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	17303	17303	17303
5°	19153	17421	15551
10°	20639	17299	13638
15°	20457	17099	11207
20°	17256	16721	9460
25°	11095	16206	8421
30°	8015	15605	7544
35°	6676	14854	6939
40°	5794	14029	6283
45°	5172	12979	5748
50°	4774	11954	5287
55°	4284	10919	5034
60°	3421	9829	4530
65°	3137	8829	4178
70°	2879	7797	3971
75°	2627	6822	3761
80°	2282	5671	3521
85°	1814	4546	3256



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.0	5.6
10°-20°	235.3	15.4
20°-30°	296.6	19.4
30°-40°	284.7	18.6
40°-50°	245.2	16.0
50°-60°	187.5	12.2
60°-70°	119.3	7.8
70°-80°	60.5	3.9
80°-90°	16.0	1.0
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°	617.8	40.4
0°-40°	902.5	59.0
0°-60°	1335.2	87.2
0°-90°	1531.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1531.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	908	908	908	908	908	
5°	1002	967	911	831	813	98
15°	1037	1040	867	664	568	281
25°	528	866	771	463	401	252
35°	287	475	639	344	298	181
45°	192	266	482	255	213	149
55°	129	162	329	177	152	114
65°	70	90	196	109	93	69
75°	36	40	93	56	51	38
85°	8	10	21	16	15	10
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°	908.4	908.4	908.4	908.4	908.4	908.4	908.4	908.4	908.4	908.4	908.4
2.5°	956.6	957.8	958.3	956.9	953.6	953.9	950.9	945.9	939.6	934.0	937.2
5°	1001.7	1003.2	1002.9	1000.3	997.0	994.0	989.0	981.8	974.4	966.7	965.2
7.5°	1043.4	1046.6	1045.7	1040.7	1038.3	1034.1	1025.5	1017.5	1006.2	995.2	990.7
10°	1067.1	1069.8	1068.3	1067.1	1064.5	1060.3	1052.6	1044.8	1032.4	1020.8	1014.2
12.5°	1065.4	1067.7	1068.9	1070.1	1069.2	1067.7	1064.5	1057.9	1047.8	1037.1	1028.8
15°	1037.4	1033.6	1030.9	1038.3	1041.0	1051.1	1053.5	1054.4	1047.5	1039.5	1037.4
17.5°	952.4	953.6	974.1	970.8	975.3	1000.0	1009.8	1023.1	1028.8	1027.0	1030.6
20°	851.3	837.4	847.5	862.3	876.3	912.3	936.1	957.2	981.5	995.2	1008.3
22.5°	675.4	675.7	700.0	724.4	755.9	794.9	831.1	871.5	914.9	941.4	972.0
25°	527.9	542.2	552.9	563.6	609.4	646.8	707.2	756.2	816.0	866.2	917.6
27.5°	426.9	441.7	443.5	467.6	494.6	525.0	564.5	641.8	703.0	776.7	840.3
30°	364.4	367.4	373.6	379.9	399.8	428.0	470.6	519.0	587.1	671.2	756.5
32.5°	319.3	318.7	324.9	334.7	345.7	364.7	388.8	428.9	490.5	557.4	656.9
35°	287.1	286.3	290.7	294.3	300.8	316.3	338.0	364.4	408.7	475.3	552.6
37.5°	256.8	258.6	261.3	265.2	273.8	283.6	298.1	320.1	355.2	399.2	473.2
40°	233.0	235.1	238.1	240.8	247.3	255.3	265.2	282.7	306.2	344.5	401.3
42.5°	211.6	212.5	214.9	218.8	223.5	230.7	240.2	253.6	273.2	299.9	349.6
45°	192.0	192.0	194.7	198.3	201.2	208.1	215.5	228.3	243.5	266.3	301.7
47.5°	175.4	175.7	177.2	177.8	181.0	187.3	195.3	205.4	217.9	235.4	268.4
50°	161.1	162.3	162.9	163.8	165.0	168.2	173.9	181.6	195.3	210.8	232.8
52.5°	146.2	147.7	148.9	150.7	152.5	152.8	157.0	162.0	171.5	187.6	205.4
55°	129.0	130.2	132.6	134.1	136.4	138.5	141.8	145.4	151.6	162.3	180.7
57.5°	109.4	109.7	112.1	113.6	118.3	123.1	126.0	129.9	134.4	141.8	155.8
60°	89.8	90.7	91.0	92.1	96.3	101.4	107.3	113.3	118.0	124.5	134.4
62.5°	79.1	79.4	80.3	81.4	81.7	84.1	85.9	93.0	101.4	107.9	114.4
65°	69.6	69.9	69.9	70.7	71.9	73.1	74.0	76.7	80.3	89.5	97.5
67.5°	60.6	60.3	60.9	61.8	62.1	63.0	64.5	66.0	68.4	71.0	79.4
70°	51.7	51.7	51.4	52.3	53.2	53.5	54.4	55.9	57.4	59.7	62.4
72.5°	42.8	43.4	43.4	44.0	44.3	45.5	46.1	46.7	48.7	49.9	52.0
75°	35.7	35.4	36.3	36.0	36.6	36.9	37.8	38.6	39.2	40.4	42.2
77.5°	28.5	27.9	28.5	28.2	28.8	29.4	29.4	30.3	30.9	32.1	33.0
80°	20.8	20.8	21.1	21.7	21.7	22.0	22.6	22.3	23.5	23.8	24.7
82.5°	14.3	14.6	14.6	14.9	14.9	14.9	15.5	15.5	15.8	16.3	16.6
85°	8.3	8.0	8.3	8.3	8.3	8.6	8.9	8.6	9.2	9.8	9.8
87.5°	2.4	2.4	2.7	3.0	3.0	3.3	3.3	3.3	3.6	3.6	3.9
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°	908.4	908.4	908.4	908.4	908.4	908.4	908.4	908.4	908.4	908.4	908.4
2.5°	937.2	935.8	931.9	928.3	921.8	916.4	914.7	914.9	906.9	898.6	896.2
5°	963.1	957.8	950.0	942.0	932.2	922.4	916.1	911.1	898.6	886.1	879.0
7.5°	984.5	975.9	964.6	951.8	939.0	924.5	914.4	904.8	887.6	870.7	861.4
10°	1004.1	991.9	976.5	959.8	942.9	923.9	909.3	894.4	872.7	853.7	838.0
12.5°	1022.9	1003.5	987.8	963.7	945.0	919.1	899.2	882.0	856.4	832.6	815.1
15°	1024.6	1011.0	989.9	964.9	936.4	912.3	887.3	867.1	838.0	811.5	781.5
17.5°	1024.3	1013.6	991.6	966.1	931.9	900.4	873.3	846.9	813.6	782.7	756.8
20°	1013.6	1006.2	987.2	956.9	922.4	886.1	856.1	824.9	785.9	754.1	725.9
22.5°	988.4	990.2	975.3	948.2	911.1	870.7	835.9	799.9	760.1	723.5	687.8
25°	945.6	964.6	960.1	934.9	895.3	851.0	811.5	771.1	728.3	689.3	656.3
27.5°	892.4	928.0	935.8	916.1	878.4	828.7	783.9	739.9	696.2	654.3	620.4
30°	829.3	882.5	902.2	891.5	856.7	804.7	752.6	709.5	661.7	617.1	581.4
32.5°	750.0	824.6	859.1	862.3	833.8	777.9	720.2	673.9	624.8	582.6	544.3
35°	661.4	752.9	809.1	824.3	803.8	748.5	687.8	638.8	586.5	544.0	505.3
37.5°	572.2	679.8	753.5	783.0	769.3	715.8	651.6	601.9	550.2	506.8	470.6
40°	490.2	592.4	688.1	734.2	730.1	680.4	615.6	564.2	511.6	471.4	431.6
42.5°	416.8	515.4	620.7	682.5	685.8	642.4	576.1	524.4	473.8	434.0	392.4
45°	358.8	445.6	549.9	623.6	637.9	602.2	535.1	481.8	435.8	398.3	356.7
47.5°	312.4	379.9	476.8	563.3	588.6	557.4	493.1	442.6	399.2	367.1	327.9
50°	272.3	335.6	417.9	497.9	535.1	511.6	451.5	403.4	364.1	333.2	298.7
52.5°	236.6	285.7	357.0	433.7	483.6	462.2	411.1	366.8	330.0	301.1	272.3
55°	207.2	248.2	311.2	379.6	425.7	413.8	368.3	328.8	296.4	269.0	245.5
57.5°	176.9	211.3	262.2	323.1	368.3	366.5	329.1	291.0	265.4	239.6	222.6
60°	150.4	178.4	219.7	271.4	316.9	317.2	288.0	258.0	236.0	213.7	197.7
62.5°	126.9	149.2	185.2	226.8	263.1	272.3	250.6	224.4	206.6	189.4	175.7
65°	106.7	123.4	150.4	188.2	216.7	229.2	214.9	195.9	181.0	165.6	153.4
67.5°	88.0	100.2	120.1	149.8	178.4	187.6	181.6	167.1	156.4	143.6	134.4
70°	69.3	79.7	93.6	115.9	139.4	152.2	150.4	140.0	131.1	121.9	113.3
72.5°	55.0	60.9	71.6	87.7	106.4	120.7	121.3	115.9	108.5	100.8	95.1
75°	44.3	47.0	52.0	64.5	79.4	91.3	95.4	92.7	86.8	82.0	78.2
77.5°	34.2	36.6	39.8	45.8	57.4	66.6	71.6	71.9	68.4	64.2	61.2
80°	25.6	26.5	28.8	31.8	37.8	45.8	51.7	51.7	49.6	47.6	45.8
82.5°	17.5	18.4	19.6	21.1	24.1	28.8	34.2	35.1	33.9	33.3	30.9
85°	9.8	10.7	11.3	12.2	13.4	15.8	19.6	20.8	21.1	19.3	18.1
87.5°	3.9	3.9	4.2	4.5	4.8	5.6	7.1	8.9	8.9	8.0	7.7
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°	908.4	908.4	908.4	908.4	908.4	908.4	908.4	908.4	908.4	908.4	908.4
2.5°	893.2	889.1	883.7	879.0	872.4	865.9	864.7	867.1	867.7	864.7	865.6
5°	872.1	864.4	857.9	847.2	840.3	831.4	825.5	825.5	825.5	821.0	816.9
7.5°	850.1	839.7	827.3	817.2	803.2	791.6	785.9	783.3	777.9	773.5	768.4
10°	824.6	810.0	794.6	778.8	766.6	750.6	741.1	735.1	725.9	722.0	714.6
12.5°	794.6	780.0	761.3	735.7	732.1	712.5	699.1	688.1	676.8	667.6	664.4
15°	770.5	745.2	720.2	702.1	675.7	664.1	644.4	642.7	633.4	606.4	585.3
17.5°	731.5	709.0	681.3	661.1	640.0	614.1	593.3	572.8	553.2	534.2	533.6
20°	697.1	670.6	644.4	622.5	585.6	548.7	535.9	517.2	505.6	490.5	486.0
22.5°	659.3	631.7	599.0	566.9	523.8	500.6	486.6	471.7	460.1	453.3	446.5
25°	621.3	593.6	550.2	510.7	481.3	463.1	451.2	435.2	426.9	420.9	412.0
27.5°	584.1	549.0	503.3	471.7	448.0	427.5	416.8	403.7	394.5	386.7	381.1
30°	547.2	499.1	460.1	435.8	411.4	398.6	384.6	374.8	368.0	360.9	351.7
32.5°	506.8	456.3	431.0	401.0	386.7	368.3	358.2	348.1	339.2	334.1	330.8
35°	459.9	419.1	396.5	374.5	356.4	344.2	330.0	323.7	319.0	309.1	305.0
37.5°	420.0	390.6	366.8	347.2	330.5	317.5	310.9	300.2	293.4	290.1	285.7
40°	387.0	360.9	340.4	320.4	306.5	297.0	285.4	279.7	270.8	267.5	264.0
42.5°	358.5	334.4	313.0	297.8	285.7	272.6	266.6	257.1	253.3	245.2	242.3
45°	329.7	308.3	289.5	274.7	263.1	255.0	244.3	238.4	231.6	227.4	219.4
47.5°	300.8	281.8	266.3	253.9	243.7	233.9	225.0	220.0	211.3	206.9	202.7
50°	278.5	260.1	245.5	233.0	222.6	212.8	207.2	198.9	191.1	186.1	184.6
52.5°	252.1	236.0	222.6	213.1	202.7	195.6	187.9	178.6	174.8	169.7	168.5
55°	228.6	215.5	204.2	194.1	185.2	177.2	168.2	161.7	158.7	156.4	154.6
57.5°	206.6	194.1	183.7	174.5	166.8	158.4	151.0	147.1	144.5	141.8	140.0
60°	184.9	173.6	164.1	156.4	148.3	140.3	135.0	131.7	129.6	125.7	124.5
62.5°	165.6	155.2	145.4	138.2	130.8	124.5	120.1	115.6	112.4	109.4	103.1
65°	144.5	135.3	127.8	120.7	113.6	108.8	103.7	98.7	94.5	94.5	94.5
67.5°	125.7	117.7	110.0	103.7	97.5	91.9	86.8	86.5	85.0	84.4	83.5
70°	106.7	101.1	93.9	87.1	80.9	78.2	77.3	75.8	74.0	73.7	72.5
72.5°	89.5	82.9	76.4	70.4	69.3	68.1	66.3	64.8	63.6	62.7	62.1
75°	73.1	66.6	61.2	59.7	58.3	56.2	54.7	53.5	52.9	52.9	52.6
77.5°	55.9	52.0	49.6	47.3	46.1	44.9	44.0	43.4	42.5	42.8	42.2
80°	41.0	39.8	37.8	36.3	35.7	34.5	33.9	33.6	33.0	33.0	32.7
82.5°	29.4	27.3	26.5	25.6	25.0	24.4	24.7	24.4	24.1	23.8	24.1
85°	16.9	16.6	16.1	16.1	16.1	15.8	15.8	15.8	15.5	15.2	15.2
87.5°	7.4	7.7	7.7	7.1	8.0	8.0	7.7	7.7	7.4	8.0	7.4
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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CATALOG NUMBER: S122RDR-H485D940-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	908.4	908.4	908.4	908.4
2.5°	861.7	861.4	859.7	856.7
5°	815.1	813.9	810.9	813.3
7.5°	765.1	761.9	758.9	760.4
10°	711.6	710.4	708.7	705.1
12.5°	652.5	657.2	652.2	663.5
15°	564.8	585.9	559.4	568.3
17.5°	521.1	521.4	517.8	513.7
20°	480.1	469.7	473.5	466.7
22.5°	440.5	438.2	437.0	434.6
25°	405.2	400.7	399.2	400.7
27.5°	379.0	376.9	371.3	370.4
30°	346.3	345.4	343.6	343.0
32.5°	325.8	321.9	321.0	317.5
35°	302.9	300.8	299.3	298.4
37.5°	280.0	278.8	276.1	277.6
40°	261.3	255.3	253.0	252.7
42.5°	240.8	237.5	232.8	231.3
45°	217.0	215.5	214.0	213.4
47.5°	196.2	195.3	193.5	192.6
50°	181.3	178.9	178.6	178.4
52.5°	167.1	166.2	165.3	166.5
55°	153.7	152.5	151.6	151.6
57.5°	139.1	137.0	135.3	135.5
60°	122.2	121.0	119.5	118.9
62.5°	102.6	102.6	102.3	102.3
65°	93.3	92.7	92.4	92.7
67.5°	83.2	82.6	81.7	82.0
70°	71.6	71.3	71.6	71.3
72.5°	61.2	60.9	61.2	61.8
75°	51.7	51.4	51.1	51.1
77.5°	41.9	41.6	41.0	41.6
80°	32.7	32.4	32.1	32.1
82.5°	23.2	23.5	23.2	23.2
85°	15.2	15.5	15.2	14.9
87.5°	7.7	8.0	7.4	7.1
90°	0.0	0.0	0.0	0.0

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