

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: P332777-940

Luminaire Tested: **S124DIW-S795D470U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332777-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S795D470U940-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 795 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 470 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4560.2 lumens
Efficiency: N/A
Efficacy: 121.0 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: General Diffuse

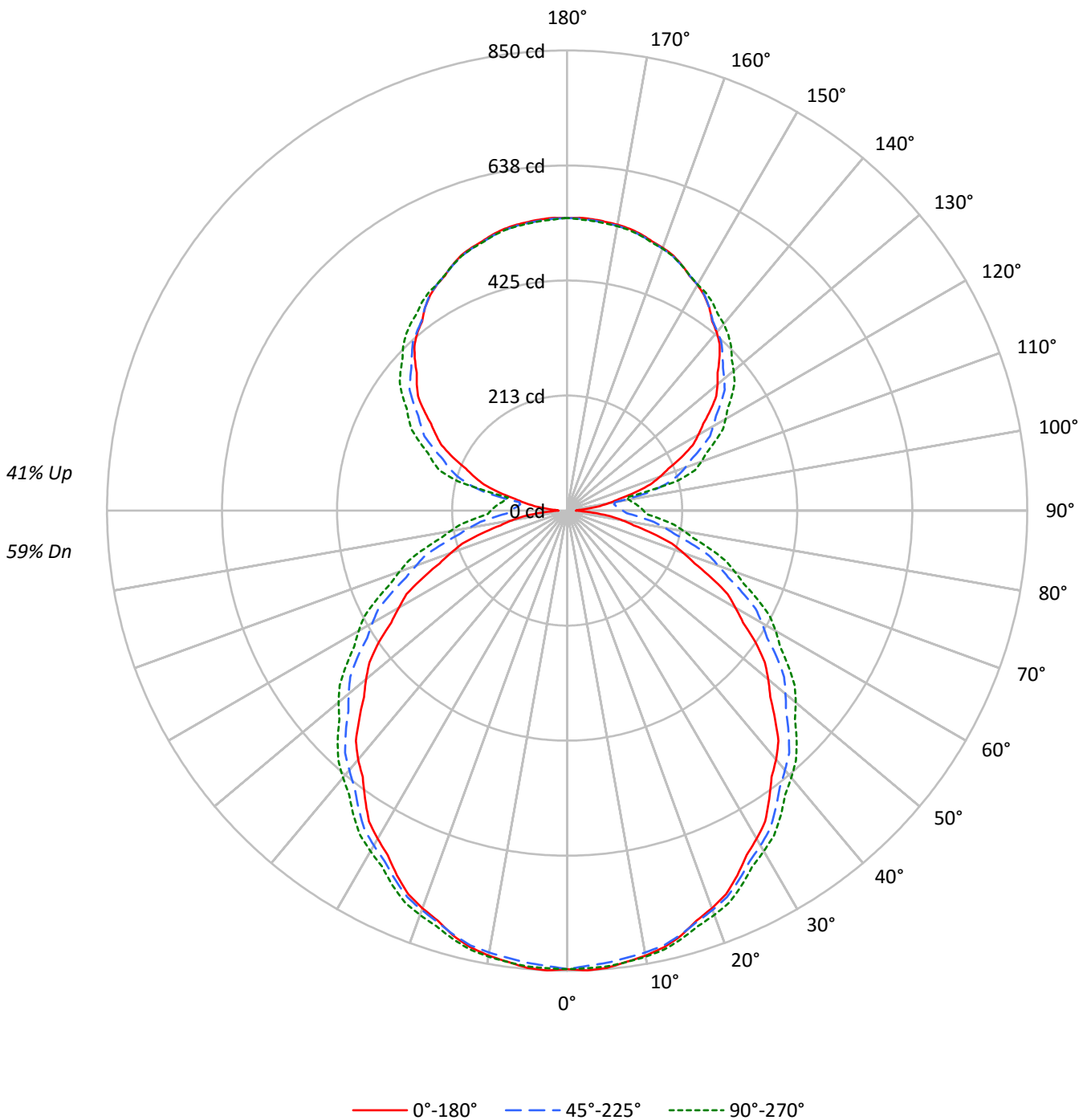
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332777-940

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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	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	50	30	10	50	30	10	0														
RCR																																						
0	109	109	109	109	102	102	102	102	88	88	88	76	76	76	64	64	64	59																				
1	99	94	89	85	92	87	83	80	76	73	70	65	63	61	55	53	52	47																				
2	89	81	74	69	83	76	70	65	65	61	57	56	53	50	47	45	43	38																				
3	81	71	63	57	75	66	59	53	57	52	47	49	45	41	42	38	36	32																				
4	74	62	54	48	69	58	51	45	51	45	40	44	39	35	37	33	30	27																				
5	68	56	47	41	63	52	44	38	45	39	34	39	34	30	33	29	26	23																				
6	62	50	41	35	58	47	39	33	41	34	30	35	30	26	30	26	23	20																				
7	58	45	36	31	54	42	35	29	37	31	26	32	27	23	27	23	20	18																				
8	54	41	33	27	50	38	31	26	34	27	23	29	24	21	25	21	18	16																				
9	50	37	29	24	46	35	28	23	31	25	21	27	22	18	23	19	16	14																				
10	47	34	27	22	43	32	25	21	28	23	19	25	20	17	21	18	15	13																				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6838	6838	6838
5°	6859	6683	6702
10°	6817	6573	6568
15°	6756	6446	6411
20°	6664	6307	6259
25°	6560	6151	6092
30°	6448	5995	5919
35°	6321	5835	5768
40°	6219	5684	5610
45°	6067	5543	5475
50°	5939	5383	5333
55°	5808	5231	5164
60°	5601	5036	5013
65°	5376	4829	4824
70°	5101	4592	4605
75°	4723	4331	4407
80°	4295	4081	4213
85°	3763	3857	4101



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.2	1.8
10°-20°	229.8	5.0
20°-30°	347.5	7.6
30°-40°	420.4	9.2
40°-50°	444.5	9.7
50°-60°	418.3	9.2
60°-70°	347.1	7.6
70°-80°	243.8	5.3
80°-90°	139.4	3.1
90°-100°	100.3	2.2
100°-110°	178.4	3.9
110°-120°	266.1	5.8
120°-130°	309.1	6.8
130°-140°	316.1	6.9
140°-150°	288.3	6.3
150°-160°	230.9	5.1
160°-170°	148.9	3.3
170°-180°	51.3	1.1
0°-30°	657.5	14.4
0°-40°	1077.9	23.6
0°-60°	1940.7	42.6
0°-90°	2671.0	58.6
90°-120°	544.8	11.9
90°-150°	1458.2	32.0
90°-180°	1889.0	41.4
0°-180°	4560.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	847	847	847	847	847	
5°	848	845	838	846	845	80
15°	813	814	811	819	818	229
25°	744	749	752	762	764	342
35°	651	662	672	684	688	407
45°	542	561	578	594	599	419
55°	425	445	473	492	498	378
65°	294	324	357	379	388	291
75°	163	198	238	264	273	174
85°	50	90	133	160	171	54
90°	16	59	103	132	141	11
95°	35	53	91	118	128	38
105°	130	152	189	214	209	137
115°	233	244	272	293	301	229
125°	323	325	347	365	372	289
135°	398	398	406	421	428	307
145°	458	458	458	464	469	286
155°	501	501	500	501	500	231
165°	528	526	526	529	526	149
175°	540	538	538	541	537	51
180°	540	540	540	540	540	



TEST NUMBER: P332777-940

CATALOG NUMBER: S124DIW-S795D470U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	847.0	847.0	847.0	847.0	847.0	847.0	847.0	847.0	847.0	847.0	847.0
2.5°	850.1	849.5	849.0	848.6	848.0	847.1	845.7	844.4	843.0	841.7	842.8
5°	847.9	847.3	846.7	846.1	845.4	844.4	842.8	841.4	839.9	838.5	840.2
7.5°	840.7	840.3	840.0	839.6	839.2	838.4	837.2	836.0	834.7	833.6	835.4
10°	834.6	834.5	834.3	834.0	833.8	833.2	832.1	831.1	830.0	828.9	830.9
12.5°	826.3	826.3	826.3	826.2	826.2	825.8	825.1	824.3	823.6	822.9	824.7
15°	812.9	813.1	813.2	813.5	813.7	813.5	812.9	812.3	811.5	810.9	812.9
17.5°	794.4	795.0	795.7	796.4	797.0	797.2	797.1	797.0	796.8	796.7	798.7
20°	781.6	782.2	782.8	783.5	784.1	784.5	784.7	784.9	785.2	785.3	787.5
22.5°	767.1	767.9	768.7	769.5	770.3	771.0	771.3	771.7	772.0	772.5	774.5
25°	743.6	744.8	746.2	747.4	748.7	749.7	750.3	750.9	751.5	752.2	754.5
27.5°	717.5	719.3	721.1	723.0	724.9	726.3	727.3	728.2	729.2	730.1	732.3
30°	700.0	701.7	703.4	705.1	706.8	708.3	709.8	711.2	712.7	714.2	716.5
32.5°	681.0	683.1	685.1	687.1	689.1	690.9	692.6	694.2	695.9	697.5	700.2
35°	650.7	653.2	655.8	658.3	660.8	663.1	665.2	667.4	669.4	671.5	674.5
37.5°	620.1	623.0	626.0	628.8	631.8	634.5	637.1	639.7	642.4	645.0	648.0
40°	600.4	603.2	605.8	608.6	611.4	614.2	617.2	620.1	623.0	626.0	629.2
42.5°	577.7	580.7	583.8	586.8	590.0	593.2	596.6	600.1	603.6	607.0	610.6
45°	542.5	546.5	550.5	554.6	558.6	562.6	566.6	570.6	574.5	578.5	582.2
47.5°	509.0	513.1	517.2	521.4	525.5	529.9	534.5	539.1	543.8	548.4	552.1
50°	484.6	489.3	493.9	498.6	503.2	507.8	512.5	517.1	521.7	526.4	530.7
52.5°	460.4	465.0	469.7	474.3	478.9	483.9	489.2	494.5	499.9	505.2	509.3
55°	424.9	429.4	433.8	438.2	442.6	448.0	454.3	460.7	467.0	473.3	477.5
57.5°	385.3	390.7	396.3	401.7	407.2	413.0	419.4	425.6	431.9	438.2	443.2
60°	359.4	365.0	370.4	375.9	381.4	387.6	394.6	401.5	408.5	415.4	420.3
62.5°	334.4	340.5	346.4	352.4	358.4	364.9	371.8	378.8	385.8	392.7	397.5
65°	294.0	300.8	307.6	314.2	321.0	328.0	335.1	342.3	349.5	356.6	361.9
67.5°	255.1	262.3	269.5	276.6	283.8	291.2	298.9	306.6	314.2	321.9	327.3
70°	228.5	235.8	242.9	250.1	257.3	264.8	272.9	280.9	288.8	296.9	302.6
72.5°	202.8	210.1	217.5	224.8	232.1	240.0	248.6	257.1	265.6	274.1	279.6
75°	163.2	170.9	178.7	186.5	194.3	202.7	211.5	220.3	229.3	238.1	244.0
77.5°	126.2	134.4	142.7	151.0	159.2	168.0	177.3	186.5	195.8	205.1	211.1
80°	103.3	111.8	120.2	128.7	137.1	146.0	155.2	164.5	173.8	183.1	189.4
82.5°	80.6	89.3	98.2	106.9	115.7	124.8	134.0	143.3	152.6	161.8	168.3
85°	50.3	59.1	67.9	76.9	85.7	94.9	104.3	113.8	123.3	132.8	139.1
87.5°	28.4	37.1	45.9	54.8	63.5	72.6	81.9	91.3	100.8	110.1	116.3
90°	16.4	25.8	35.2	44.7	54.0	63.7	73.5	83.2	93.0	102.8	109.4
92.5°	19.5	27.1	34.8	42.4	50.1	58.8	68.6	78.4	88.1	97.9	104.4
95°	34.6	38.4	42.4	46.3	50.2	56.4	65.2	73.9	82.7	91.4	97.6
97.5°	58.4	66.3	74.2	82.0	90.0	93.2	91.7	90.2	88.8	87.3	92.9
100°	76.7	83.8	90.9	98.0	105.1	106.6	102.4	98.2	94.1	89.9	94.0
102.5°	98.1	104.1	110.0	116.0	122.0	128.2	134.6	141.1	147.5	154.0	143.0
105°	130.2	134.9	139.7	144.5	149.2	155.7	164.0	172.2	180.5	188.7	194.7
107.5°	161.6	165.3	169.1	172.8	176.5	182.4	190.4	198.3	206.3	214.3	219.9
110°	182.2	185.4	188.6	191.8	195.0	200.6	208.6	216.4	224.4	232.3	237.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	202.1	205.2	208.3	211.4	214.5	219.7	226.9	234.3	241.6	248.9	253.5
115°	232.8	235.0	237.1	239.3	241.5	245.8	252.5	259.2	265.8	272.5	277.3
117.5°	261.3	262.8	264.3	265.8	267.3	271.3	277.8	284.3	290.7	297.2	301.6
120°	279.9	281.0	282.0	282.9	283.9	287.4	293.5	299.4	305.5	311.5	315.9
122.5°	298.1	298.4	298.7	299.1	299.4	302.6	308.4	314.3	320.2	326.2	330.5
125°	323.1	323.2	323.3	323.5	323.6	326.3	331.4	336.4	341.5	346.6	350.9
127.5°	347.4	347.3	347.2	347.1	347.0	349.1	353.6	358.0	362.5	366.9	370.7
130°	362.5	362.4	362.3	362.1	362.0	363.8	367.5	371.0	374.7	378.4	382.3
132.5°	377.1	377.0	376.9	376.9	376.8	378.4	381.4	384.4	387.4	390.5	394.2
135°	398.0	397.9	397.8	397.7	397.6	398.4	400.3	402.2	403.9	405.8	409.4
137.5°	417.2	417.1	416.9	416.7	416.5	417.1	418.1	419.3	420.4	421.5	424.7
140°	429.9	429.8	429.8	429.8	429.7	429.9	430.3	430.7	431.1	431.5	434.5
142.5°	440.4	440.7	441.0	441.3	441.6	441.7	441.7	441.7	441.7	441.6	444.2
145°	457.6	457.6	457.7	457.8	457.8	457.9	457.9	457.9	457.9	457.9	459.2
147.5°	471.4	471.7	472.0	472.3	472.6	472.7	472.6	472.5	472.4	472.3	472.6
150°	481.4	481.6	481.8	481.9	482.1	482.1	482.0	481.9	481.8	481.7	481.7
152.5°	489.1	489.4	489.5	489.8	490.1	490.1	490.0	489.8	489.6	489.5	489.6
155°	500.7	500.8	500.9	501.0	501.1	501.0	500.7	500.4	500.2	499.9	500.2
157.5°	510.7	510.6	510.5	510.5	510.4	510.2	510.0	509.6	509.3	509.1	509.5
160°	516.5	516.2	515.9	515.7	515.4	515.2	515.1	515.1	515.0	514.9	515.4
162.5°	521.7	521.3	520.9	520.6	520.3	520.0	520.0	519.9	519.8	519.7	520.2
165°	528.2	527.7	527.3	526.8	526.4	526.2	526.2	526.2	526.2	526.2	526.9
167.5°	533.3	532.9	532.4	532.0	531.5	531.2	531.2	531.1	531.1	531.0	531.8
170°	536.3	535.7	535.2	534.7	534.1	533.9	534.0	534.0	534.1	534.2	534.9
172.5°	538.2	537.7	537.2	536.6	536.1	535.8	535.9	536.0	536.1	536.2	536.9
175°	540.3	539.8	539.2	538.7	538.1	538.0	538.1	538.1	538.2	538.3	539.1
177.5°	541.3	540.8	540.3	539.8	539.3	539.1	539.2	539.4	539.5	539.7	540.2
180°	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	847.0	847.0	847.0	847.0	847.0	847.0	847.0	847.0
2.5°	844.0	845.3	846.4	846.9	846.8	846.6	846.4	846.2
5°	841.9	843.6	845.2	846.0	845.7	845.5	845.3	845.1
7.5°	837.3	839.2	841.2	842.0	841.8	841.5	841.3	841.2
10°	832.8	834.6	836.6	837.4	837.2	837.0	836.8	836.6
12.5°	826.3	828.1	829.8	830.6	830.6	830.5	830.5	830.5
15°	814.8	816.6	818.5	819.4	819.2	818.9	818.8	818.5
17.5°	800.6	802.5	804.5	805.4	805.2	805.0	804.9	804.7
20°	789.5	791.7	793.8	794.9	794.9	794.9	794.9	794.9
22.5°	776.7	778.7	780.9	782.1	782.5	782.7	783.1	783.5
25°	756.8	759.1	761.4	762.7	762.9	763.1	763.3	763.6
27.5°	734.4	736.6	738.8	739.9	740.2	740.5	740.7	740.9
30°	718.8	721.1	723.4	724.9	725.3	725.7	726.1	726.6
32.5°	702.8	705.5	708.1	709.7	710.1	710.5	711.0	711.4
35°	677.4	680.4	683.3	685.1	685.7	686.3	687.1	687.7
37.5°	650.9	654.0	656.9	658.8	659.4	660.1	660.8	661.5
40°	632.3	635.5	638.6	640.6	641.5	642.3	643.2	644.0
42.5°	614.0	617.5	621.0	623.1	623.8	624.5	625.2	625.8
45°	585.8	589.3	592.9	595.2	596.3	597.4	598.4	599.4
47.5°	555.8	559.5	563.3	565.7	567.0	568.3	569.5	570.8
50°	534.8	539.0	543.2	546.0	547.2	548.6	549.8	551.1
52.5°	513.6	517.8	522.0	524.8	526.0	527.3	528.5	529.9
55°	481.7	486.0	490.2	492.9	494.2	495.4	496.7	497.9
57.5°	448.3	453.3	458.3	461.4	462.5	463.7	464.9	466.1
60°	425.2	430.0	434.8	438.1	439.8	441.5	443.2	444.9
62.5°	402.3	407.2	412.1	415.4	417.1	418.7	420.4	422.0
65°	367.2	372.5	377.7	381.2	382.9	384.6	386.2	387.9
67.5°	332.6	338.0	343.3	346.8	348.5	350.1	351.8	353.4
70°	308.3	314.0	319.7	323.2	324.7	326.2	327.6	329.1
72.5°	285.2	290.7	296.2	299.8	301.4	303.1	304.7	306.4
75°	249.9	255.7	261.7	265.6	267.5	269.4	271.3	273.1
77.5°	217.0	223.0	229.0	233.0	235.1	237.0	239.1	241.1
80°	195.7	202.1	208.4	212.3	214.0	215.7	217.4	219.1
82.5°	174.8	181.3	187.8	192.0	193.8	195.6	197.5	199.4
85°	145.4	151.8	158.1	162.3	164.4	166.5	168.6	170.8
87.5°	122.5	128.8	135.0	139.0	140.9	142.9	144.7	146.6
90°	116.1	122.8	129.4	133.7	135.5	137.4	139.3	141.2
92.5°	110.8	117.3	123.9	128.0	129.7	131.3	133.1	134.8
95°	103.9	110.1	116.4	120.5	122.4	124.4	126.4	128.4
97.5°	98.4	104.1	109.6	113.3	115.2	117.2	119.0	120.9
100°	98.2	102.4	106.6	109.4	110.9	112.5	114.0	115.7
102.5°	132.1	121.1	110.2	105.5	107.2	108.9	110.5	112.2
105°	200.8	206.9	213.0	215.3	213.7	212.1	210.6	209.1
107.5°	225.4	231.0	236.7	240.3	242.2	244.1	245.9	247.8
110°	242.4	247.4	252.4	255.9	257.9	259.8	261.7	263.7



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CATALOG NUMBER: S124DIW-S795D470U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	258.2	262.8	267.4	270.7	272.8	274.8	276.9	278.8
115°	282.1	287.0	291.8	294.9	296.4	297.8	299.3	300.9
117.5°	305.9	310.2	314.6	317.6	319.2	320.9	322.5	324.2
120°	320.3	324.7	329.1	332.1	333.6	335.0	336.5	338.0
122.5°	334.8	339.1	343.4	346.3	347.6	348.9	350.3	351.6
125°	355.2	359.4	363.7	366.5	367.9	369.3	370.6	371.9
127.5°	374.4	378.2	381.9	384.5	385.8	387.2	388.5	389.9
130°	386.1	390.0	393.9	396.5	397.7	399.0	400.3	401.5
132.5°	398.0	401.6	405.4	407.9	409.0	410.2	411.4	412.6
135°	412.9	416.4	420.0	422.5	423.9	425.3	426.9	428.3
137.5°	428.0	431.3	434.5	436.7	437.7	438.7	439.7	440.7
140°	437.5	440.5	443.5	445.6	446.7	447.9	449.1	450.1
142.5°	446.8	449.4	452.0	453.8	454.7	455.6	456.5	457.4
145°	460.6	461.9	463.3	464.5	465.5	466.5	467.5	468.6
147.5°	472.8	473.1	473.3	473.8	474.6	475.4	476.1	476.9
150°	481.7	481.7	481.7	481.8	481.9	482.0	482.1	482.1
152.5°	489.7	489.9	490.1	490.1	490.1	490.0	489.9	489.9
155°	500.6	501.0	501.3	501.4	501.1	500.9	500.6	500.3
157.5°	510.0	510.4	510.9	510.9	510.4	510.0	509.5	509.1
160°	515.9	516.5	517.0	517.0	516.5	515.9	515.4	514.9
162.5°	520.8	521.3	521.8	521.8	521.2	520.6	520.0	519.4
165°	527.6	528.3	529.1	529.0	528.2	527.4	526.6	525.8
167.5°	532.6	533.4	534.2	534.1	533.2	532.4	531.5	530.6
170°	535.7	536.4	537.2	537.1	536.1	535.2	534.3	533.4
172.5°	537.6	538.3	539.0	539.0	538.0	537.0	536.0	535.0
175°	539.9	540.7	541.5	541.4	540.3	539.2	538.1	537.1
177.5°	540.8	541.4	542.0	541.8	541.0	540.1	539.2	538.4
180°	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3

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