

Scaled data based on original data using
LM-46-04 Photometric Testing of Indoor Luminaires Using High Intensity Discharge
or Incandescent Filament Lamps (Reaffirmed 2012)

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: STREETWORKS

Report Number: P13101

Luminaire Tested: **TRU15S3F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-46-04
Report Number: P13101
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: TRU15S3F
Description: TRIBUTE AREA/SITE HID FIXTURE WITH TYPE 3F SEMI SPECULAR
HYDROFORMED REFLECTOR
Light Source: (1) MOGUL BASE ED23.5 HIGH PRESSURE SODIUM LAMP
USING MANUFACTURERS PUBLISHED DATA AND A BARE LAMP SUM FOR
THE LAMP UNDER TEST IN GONIOPHOTOMETER WITH TEST DISTANCE OF
25.0 FEET
LU150/ED23.5 150 WATTS
Ballast/Driver: -

Summary

Lumens per Lamp: 16000 (1 lamp)
Luminaire Lumens: 12565.6 lumens
Efficiency: 78.5%
Efficacy: 83.8 lumens/watt
Luminous Opening: Rectangular (W 1.1' x L: 1.1' x H: 0')
IES Classification: Type III - Short - Full Cutoff
BUG Rating: B2 - U0 - G2

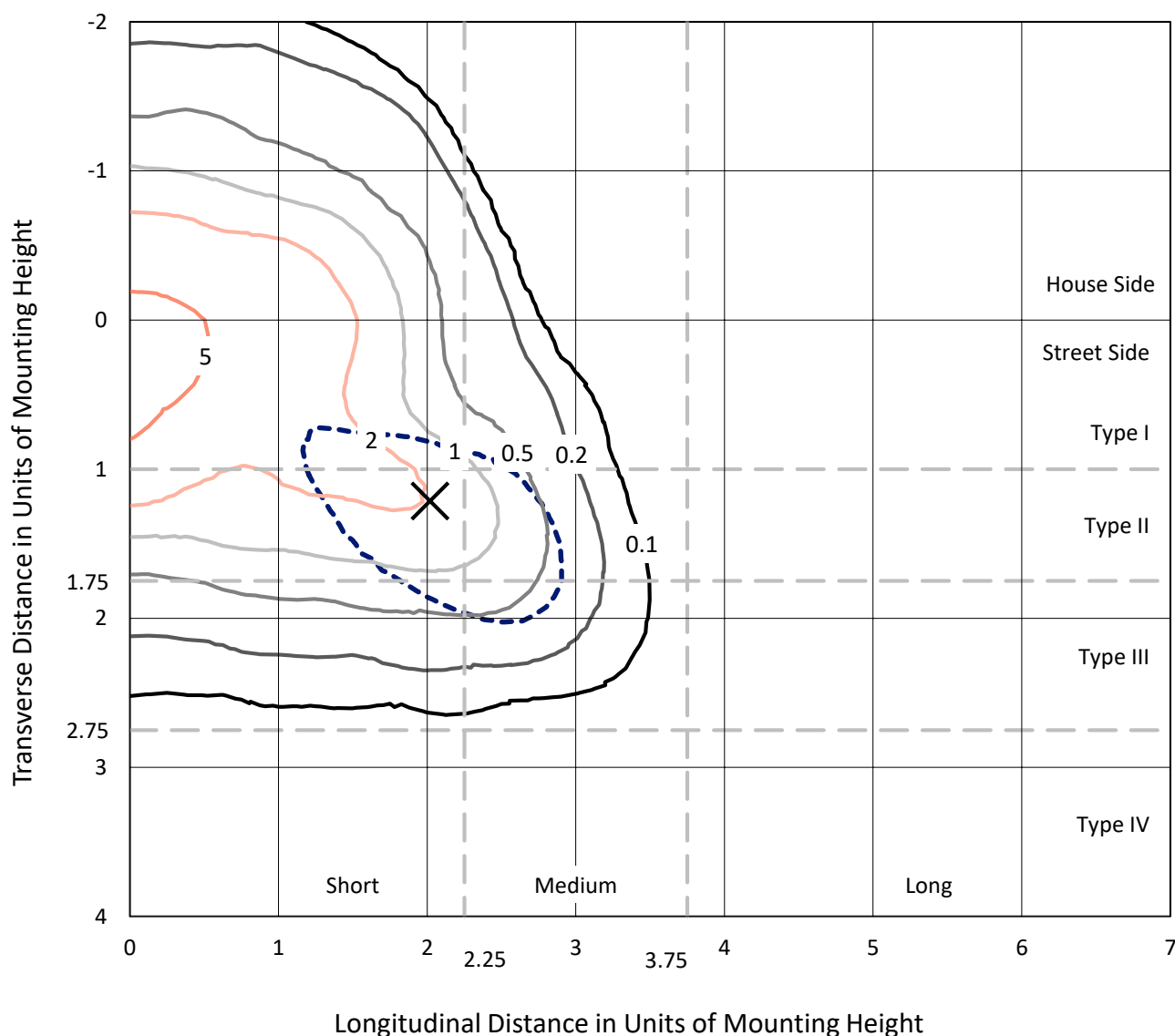
Input Watts (W): 150
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

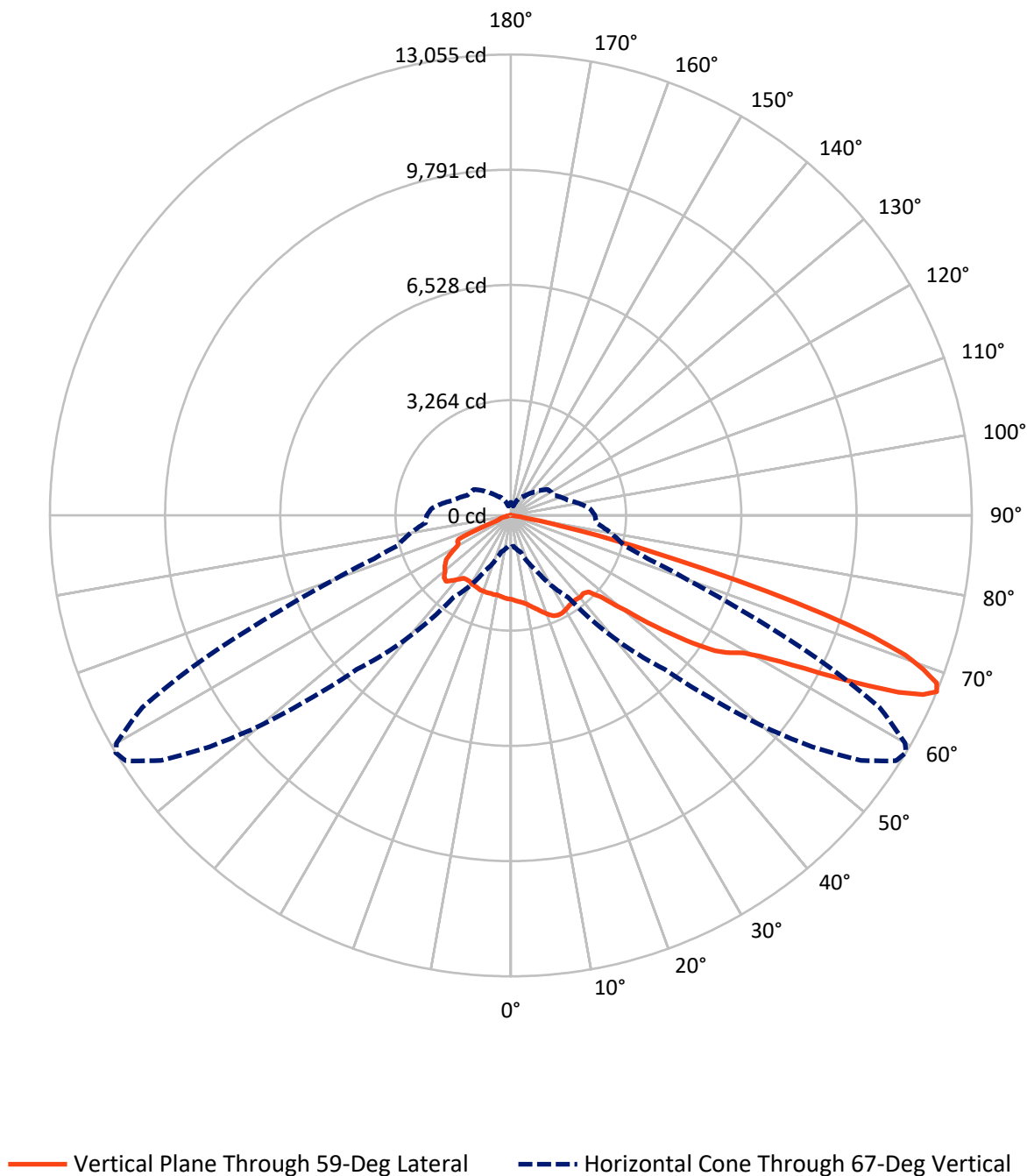
× Max cd
 --- 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.4 fc
 Type III - Short - Full Cutoff

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Luminous Intensity Polar Plot



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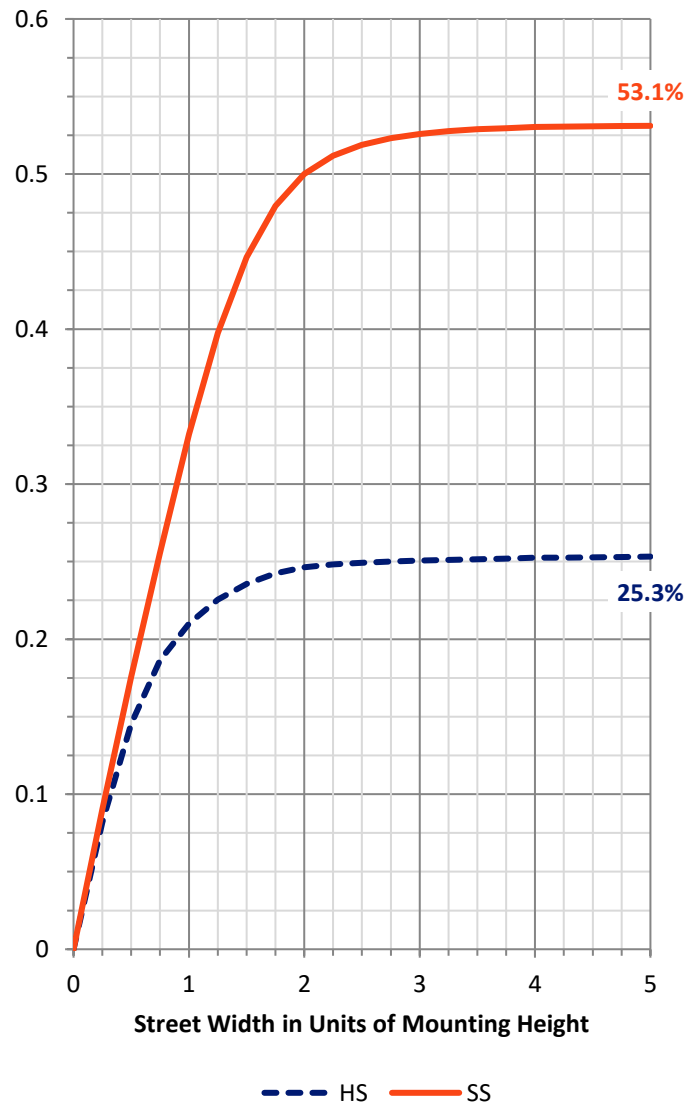
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4071.1	0.0	4071.1
	% Lamp	25.4	0.0	25.4
Street Side	Lumens	8494.5	0.0	8494.5
	% Lamp	53.1	0.0	53.1
Total	Lumens	12565.6	0.0	12565.6
	% Lamp	78.5	0.0	78.5

ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	228.4	1.8	1.4
10°-20°	702.7	5.6	4.4
20°-30°	1219.1	9.7	7.6
30°-40°	1662.4	13.2	10.4
40°-50°	2152.1	17.1	13.5
50°-60°	2784.1	22.2	17.4
60°-70°	2773.9	22.1	17.3
70°-80°	1011.5	8.0	6.3
80°-90°	31.5	0.3	0.2
90°-100°	0.0	0.0	0.0
100°-110°	0.0	0.0	0.0
110°-120°	0.0	0.0	0.0
120°-130°	0.0	0.0	0.0
130°-140°	0.0	0.0	0.0
140°-150°	0.0	0.0	0.0
150°-160°	0.0	0.0	0.0
160°-170°	0.0	0.0	0.0
170°-180°	0.0	0.0	0.0
0°-90°	12565.6	100.0	78.5
0°-180°	12565.6	100.0	78.5

Coefficient of Utilization



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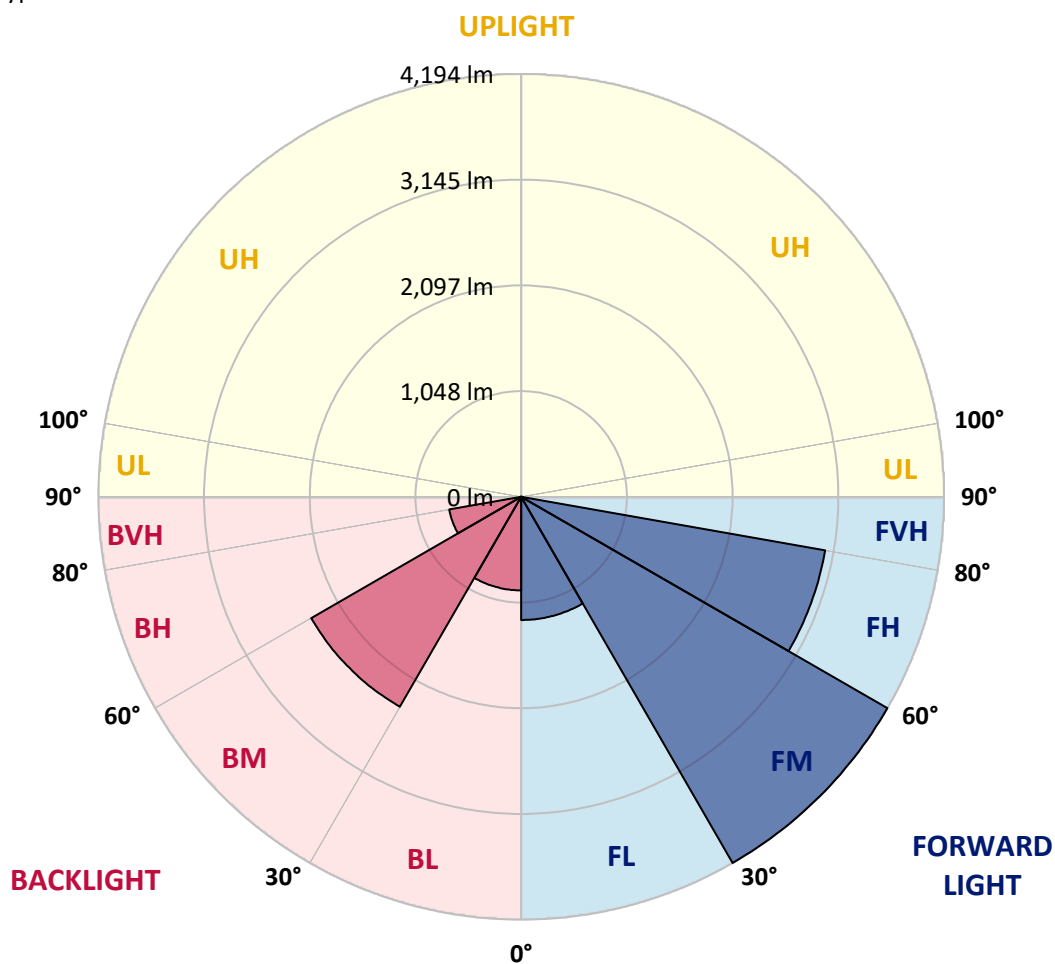
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Lamp	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1221.9	7.6			
FM	(30°-60°)	4193.8	26.2			
FH	(60°-80°)	3061.6	19.1			G2/5000
FVH	(80°-90°)	17.2	0.1			G1/100
BL	(0°-30°)	928.3	5.8	B2/1000		
BM	(30°-60°)	2404.8	15.0	B2/2500		
BH	(60°-80°)	723.8	4.5	B2/1000		G2/1000
BVH	(80°-90°)	14.2	0.1			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	
Trapped Light		3434.4	21.5			

BUG Rating: B2-U0-G2

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	47.5°	50°	52.5°	55°	57.5°
0°	2373	2373	2373	2373	2373	2373	2373	2373	2373	2373	2373
2.5°	2411	2412	2400	2417	2419	2414	2403	2409	2410	2402	2396
5°	2458	2461	2464	2474	2470	2464	2477	2460	2453	2481	2443
7.5°	2521	2532	2561	2550	2546	2525	2517	2512	2506	2500	2499
10°	2590	2598	2605	2617	2610	2588	2590	2591	2591	2573	2559
12.5°	2681	2680	2709	2701	2735	2694	2693	2681	2691	2681	2675
15°	2709	2716	2745	2765	2786	2810	2783	2770	2764	2777	2753
17.5°	2752	2761	2813	2860	2906	2933	2922	2925	2911	2898	2878
20°	2806	2812	2879	2970	3043	3080	3062	3059	3043	3020	3001
22.5°	2885	2893	2959	3104	3171	3171	3148	3135	3129	3117	3096
25°	3010	3024	3092	3208	3283	3230	3205	3202	3176	3154	3142
27.5°	3279	3299	3240	3306	3293	3228	3232	3213	3183	3154	3132
30°	3608	3580	3413	3343	3292	3227	3224	3200	3152	3123	3089
32.5°	3905	3822	3493	3315	3244	3179	3158	3137	3111	3074	3048
35°	4081	3978	3544	3293	3256	3181	3145	3126	3082	3059	3039
37.5°	4150	4046	3566	3302	3240	3180	3148	3125	3081	3052	3030
40°	4260	4114	3622	3370	3316	3255	3227	3210	3140	3096	3052
42.5°	4323	4172	3617	3381	3285	3281	3260	3209	3147	3103	3039
45°	4292	4177	3554	3318	3247	3280	3293	3273	3254	3212	3161
47.5°	4099	3990	3347	3132	3099	3302	3413	3512	3555	3555	3528
50°	3618	3532	3042	2920	3041	3519	3752	3968	4169	4272	4272
52.5°	2897	2883	2687	2823	3065	3913	4302	4716	5101	5376	5438
55°	2238	2239	2452	2883	3254	4515	5066	5678	6211	6599	6674
56°	2058	2063	2415	2980	3400	4865	5474	6133	6695	7071	7126
57°	1881	1891	2285	3046	3563	5154	5836	6535	7087	7436	7424
58°	1732	1766	2181	3093	3711	5406	6102	6793	7343	7677	7640
59°	1599	1614	2065	3057	3823	5623	6290	6963	7465	7762	7810
60°	1486	1497	1940	2999	3929	5816	6486	7093	7613	7999	8169
61°	1349	1365	1776	2866	3907	5960	6600	7274	7897	8412	8695
62°	1275	1249	1601	2660	3837	6041	6766	7551	8364	8964	9349
63°	1155	1149	1479	2503	3779	6214	7042	7989	8901	9686	10171
64°	1094	1078	1352	2323	3626	6302	7288	8401	9509	10500	11119
65°	1013	1008	1237	2105	3429	6337	7510	8781	10049	11234	11954
66°	942	935	1136	1934	3145	6301	7632	9100	10518	11799	12575
67°	900	878	1077	1735	2838	6164	7610	9253	10768	12096	12933
68°	831	812	964	1514	2522	5911	7492	9195	10796	12172	12862
69°	725	708	850	1306	2183	5490	7136	8852	10482	11775	12470
70°	717	708	848	1189	1929	5056	6644	8417	9983	11201	11779
71°	658	637	759	1048	1674	4437	5945	7669	9204	10315	10823
72°	633	604	704	949	1459	3825	5179	6791	8180	9037	9421
73°	570	570	656	857	1270	3152	4286	5699	6862	7517	7656
74°	527	450	573	773	1111	2460	3329	4404	5296	5732	5835
75°	386	327	433	644	903	1728	2365	3136	3909	4253	4157
77.5°	38	19	49	185	200	481	739	1060	1349	1514	1505
80°	27	26	37	37	95	158	223	315	368	407	439



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	47.5°	50°	52.5°	55°	57.5°
82.5°	49	8	12	14	24	37	54	68	82	95	97
85°	0	41	0	1	2	0	4	4	18	11	11
87.5°	8	11	0	3	4	2	7	4	4	5	4
90°	0	0	0	0	0	0	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	59°	60°	62.5°	65°	67.5°	70°	72.5°	75°	85°	90°	95°
0°	2373	2373	2373	2373	2373	2373	2373	2373	2373	2373	2373
2.5°	2419	2397	2412	2398	2402	2394	2391	2386	2403	2388	2384
5°	2453	2451	2447	2435	2447	2430	2439	2419	2404	2405	2402
7.5°	2496	2488	2490	2486	2482	2477	2464	2456	2423	2434	2402
10°	2562	2559	2559	2541	2537	2522	2512	2501	2434	2455	2399
12.5°	2655	2650	2655	2627	2638	2629	2602	2573	2520	2495	2446
15°	2752	2742	2734	2709	2698	2655	2639	2610	2541	2500	2444
17.5°	2871	2840	2839	2805	2789	2742	2700	2665	2577	2542	2466
20°	2985	2960	2944	2910	2894	2848	2822	2783	2671	2608	2543
22.5°	3087	3084	3061	3024	3001	2981	2930	2910	2774	2707	2636
25°	3129	3094	3103	3059	3050	3010	2975	2947	2835	2774	2695
27.5°	3120	3093	3075	3031	3024	2999	2965	2950	2857	2825	2767
30°	3087	3064	3043	3010	2997	2963	2937	2914	2856	2888	2773
32.5°	3042	3011	3013	2979	2960	2965	2909	2890	2863	2851	2786
35°	3024	3024	2989	2972	2963	2949	2918	2912	2926	2889	2791
37.5°	3013	3003	2977	2943	2936	2913	2896	2899	2936	2947	2841
40°	3037	2994	2969	2920	2911	2888	2873	2879	2975	3014	2953
42.5°	3012	2969	2927	2871	2855	2855	2854	2886	3064	3139	3153
45°	3096	3064	2996	2947	2969	3001	3061	3154	3482	3584	3567
47.5°	3461	3419	3346	3296	3350	3437	3564	3724	4153	4184	4114
50°	4241	4179	4104	3982	4050	4132	4267	4361	4673	4692	4553
52.5°	5392	5291	5077	4827	4715	4709	4743	4798	4801	4724	4503
55°	6533	6349	5911	5447	5115	4922	4813	4751	4799	4763	4514
56°	6946	6735	6180	5617	5185	4895	4730	4700	4878	4884	4604
57°	7226	6993	6313	5669	5161	4855	4676	4661	4897	4910	4620
58°	7443	7154	6470	5739	5201	4831	4629	4615	4901	4845	4549
59°	7677	7406	6706	5900	5280	4816	4559	4514	4757	4638	4347
60°	8091	7862	7111	6154	5395	4852	4504	4415	4494	4292	3978
61°	8671	8451	7654	6496	5590	4916	4466	4240	4052	3848	3540
62°	9391	9192	8280	6905	5728	4879	4319	3992	3519	3305	3064
63°	10285	10139	9086	7480	6003	4927	4178	3759	3080	2909	2732
64°	11198	11069	9969	8086	6301	4963	4036	3455	2703	2599	2495
65°	12072	11904	10806	8682	6565	4963	3858	3222	2430	2391	2387
66°	12726	12549	11436	9205	6877	5066	3839	3135	2343	2384	2400
67°	13055	12893	11770	9572	7139	5298	4052	3328	2427	2383	2249
68°	12964	12776	11788	9732	7418	5632	4447	3707	2360	2119	1747
69°	12478	12339	11471	9625	7475	5818	4695	3911	1996	1549	1054
70°	11859	11714	10889	9207	7171	5587	4479	3681	1581	1064	693
71°	10800	10633	9811	8179	6311	4800	3777	3025	1150	764	536
72°	9307	9076	8207	6806	5129	3934	2955	2361	963	670	514
73°	7560	7194	6409	5236	3964	3000	2295	1834	830	626	495
74°	5729	5415	4783	3874	2956	2235	1766	1380	719	574	487
75°	4121	3888	3400	2759	2100	1583	1223	988	606	507	465
77.5°	1441	1358	1158	922	701	529	405	330	284	272	302
80°	399	384	358	288	234	199	144	136	121	130	162



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CANDELA DISTRIBUTION (continued):

	59°	60°	62.5°	65°	67.5°	70°	72.5°	75°	85°	90°	95°
82.5°	103	96	84	75	60	60	48	39	34	39	47
85°	11	17	38	9	9	13	15	3	12	5	4
87.5°	5	9	1	0	5	8	2	2	0	2	1
90°	0	0	0	0	0	0	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2373	2373	2373	2373	2373	2373	2373	2373	2373
2.5°	2380	2364	2365	2356	2341	2352	2328	2335	2328
5°	2368	2349	2335	2321	2286	2271	2260	2257	2244
7.5°	2370	2323	2305	2275	2256	2232	2208	2198	2193
10°	2361	2300	2270	2232	2188	2172	2139	2129	2122
12.5°	2388	2319	2277	2236	2174	2132	2105	2088	2073
15°	2404	2316	2260	2191	2129	2077	2036	2025	2028
17.5°	2398	2323	2262	2177	2092	2048	1996	1985	1977
20°	2438	2326	2247	2175	2080	2016	1960	1946	1929
22.5°	2487	2354	2237	2149	2074	1997	1931	1898	1897
25°	2543	2344	2196	2115	2041	1949	1900	1876	1853
27.5°	2594	2356	2163	2096	2012	1925	1840	1822	1817
30°	2615	2357	2154	2051	1973	1884	1774	1754	1748
32.5°	2568	2324	2119	1993	1901	1808	1686	1664	1650
35°	2570	2301	2144	1949	1888	1729	1604	1562	1561
37.5°	2615	2345	2147	1884	1696	1568	1462	1415	1408
40°	2800	2543	2220	1863	1603	1466	1364	1307	1302
42.5°	3048	2817	2257	1728	1508	1371	1264	1217	1202
45°	3385	3097	2298	1644	1462	1313	1214	1168	1196
47.5°	3794	3210	2168	1583	1362	1229	1200	1149	1150
50°	4054	3152	1978	1528	1280	1187	1223	1121	1115
52.5°	3999	3032	1932	1482	1216	1186	1207	1029	1008
55°	3881	2864	1865	1402	1161	1166	1128	915	926
56°	3843	2810	1818	1389	1178	1172	1112	910	906
57°	3740	2706	1744	1356	1131	1136	1059	885	875
58°	3603	2560	1650	1358	1114	1125	1014	879	866
59°	3391	2380	1609	1310	1101	1096	964	851	848
60°	3101	2179	1597	1304	1094	1078	913	839	826
61°	2800	1968	1583	1290	1076	1048	864	821	793
62°	2508	1854	1584	1242	1021	996	774	753	723
63°	2356	1788	1603	1247	1028	983	734	669	670
64°	2305	1786	1626	1252	1018	933	606	593	599
65°	2215	1747	1617	1229	974	811	501	496	504
66°	2060	1643	1584	1145	858	682	379	410	435
67°	1671	1351	1280	930	662	523	276	337	370
68°	1146	885	858	622	472	372	231	314	357
69°	640	478	504	381	254	228	193	266	314
70°	475	387	425	316	228	240	223	271	338
71°	433	340	364	284	200	188	232	245	305
72°	436	338	338	277	196	177	312	241	281
73°	442	339	326	277	170	152	326	236	256
74°	453	334	293	258	156	137	383	238	235
75°	457	296	252	200	146	146	413	199	204
77.5°	346	190	131	112	64	39	311	124	116
80°	194	119	80	77	55	39	193	100	71



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CANDELA DISTRIBUTION (continued):

	105°	115°	125°	135°	145°	155°	165°	175°	180°
82.5°	68	67	30	26	19	22	36	49	20
85°	11	18	33	0	0	5	0	0	2
87.5°	7	1	4	0	0	1	0	1	4
90°	0	0	0	0	0	0	0	0	0

(END OF REPORT)