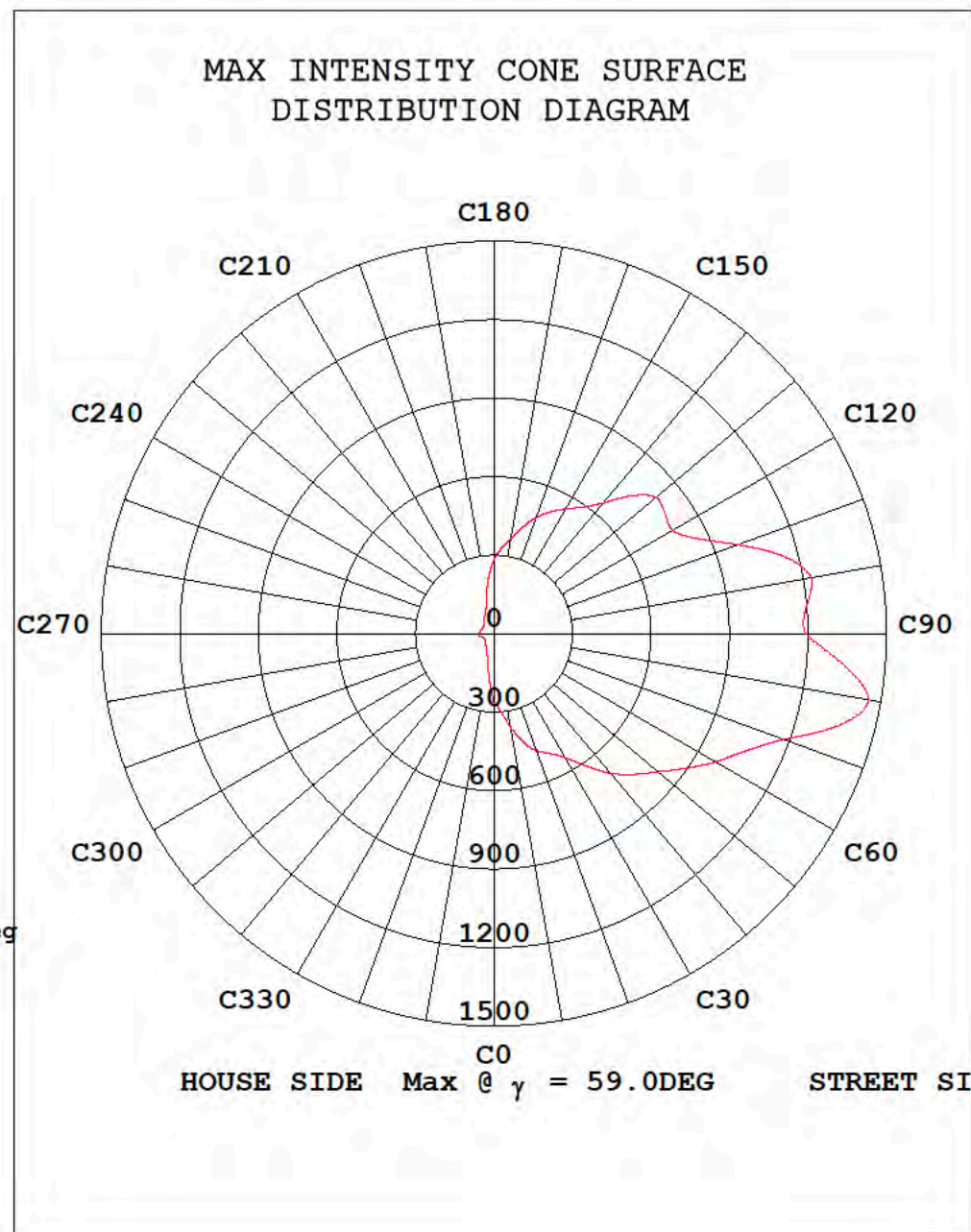
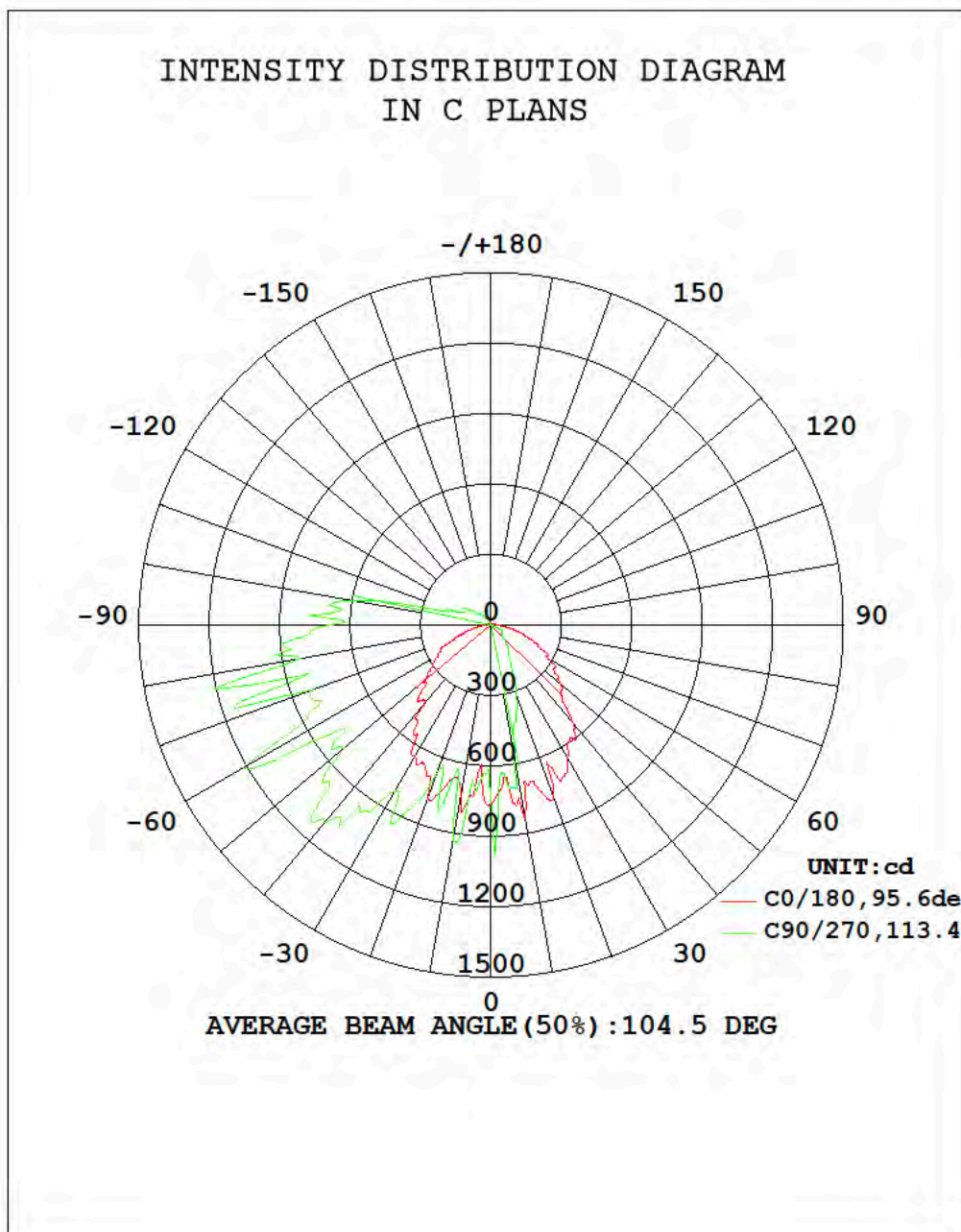


STREETLIGHT PHOTOMETRIC TEST REPORT

Test:U:120.0V I:0.2002A P:23.77W PF:0.9895 Lamp Flux:2957.14x1 lm		
NAME:	TYPE:83328	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: P.Q.L., Inc.	SUR.:0.2*0.28	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 124.41 lm/W			
MODEL	83328	I _{max} (cd)	1455	η street_up (%)	12.2
NOMINAL POWER (W)	25	LOR (%)	100.0	η street_down (%)	73.1
RATED VOLTAGE (V)	120	TOTAL FLUX (lm)	2957	η house_up (%)	0.4
NOMINAL FLUX (lm)	2957.14	MAXIMUM @ (C, γ)	80, 59.0	η house_down (%)	14.2
LAMPS INSIDE	1	η up (%)	12.7	76 FLASHAREA (m2)	
TEST VOLTAGE (V)	120	η down (%)	87.3	SLI	



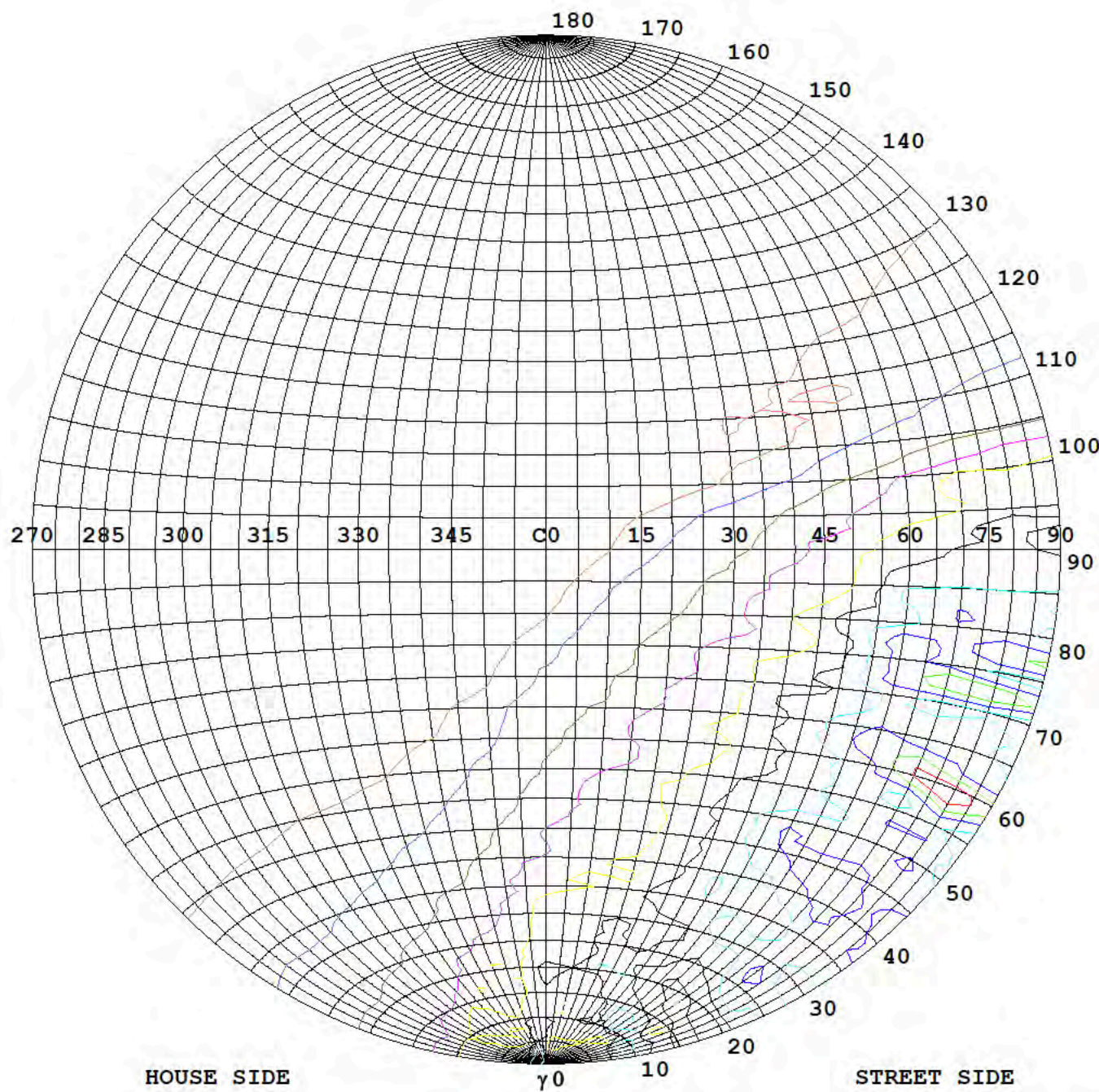
C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: David
 Test Date: 2018-01-23

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.0.287
 Humidity: 65.0%
 Test Distance: 26.000m [K=1.0000]
 Remarks:

Note: SLI: Specific Luminaire Index

STREETLIGHT ISOCANDELA DIAGRAM

Test:U:120.0V I:0.2002A P:23.77W PF:0.9895 Lamp Flux:2957.14x1 lm		
NAME:	TYPE:83328	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: P.Q.L., Inc.	SUR.:0.2*0.28	PROTECTION ANGLE:



Classification:

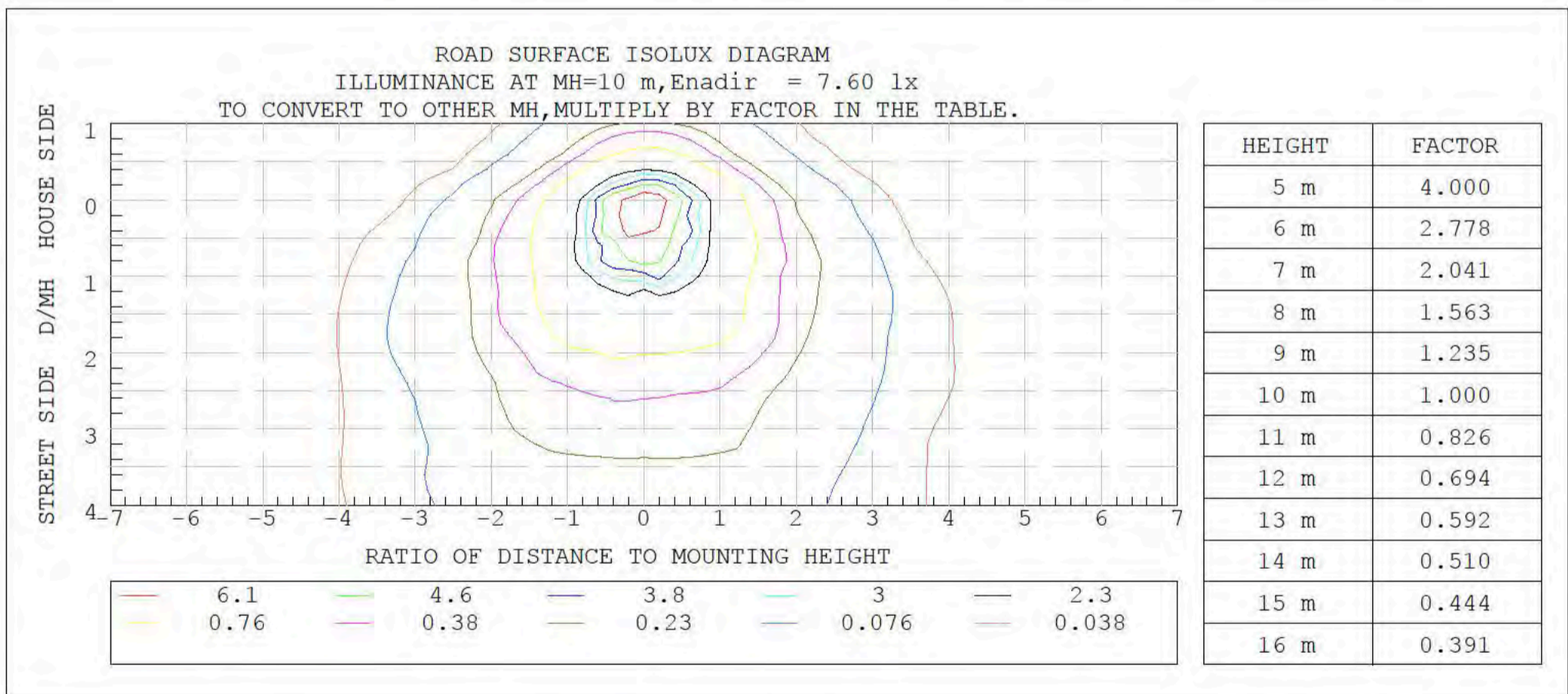
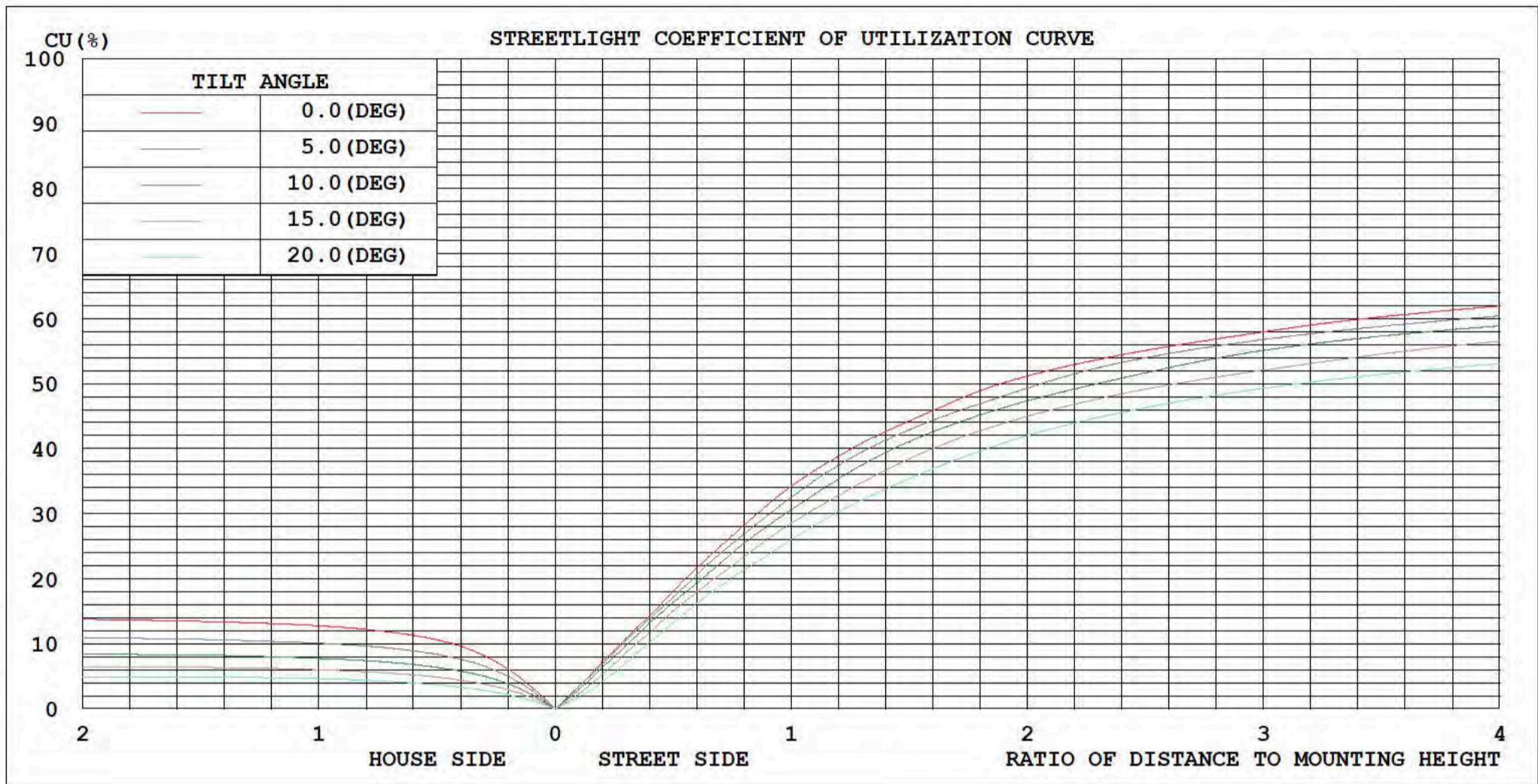
IES:Type IV - Very Short
 CIE:Broad - Short
 IES:None cut-off
 CIE:Non-cut-off
 Max.At80:339.3cd/klm
 Max.At90:260.3cd/klm
 Max.80-90:347.2cd/klm

ISOCANDELA DIAGRAM	
UNIT	cd
I _{max} =100%	1455
— 90%	1309
— 80%	1164
— 70%	1018
— 60%	873
— 50%	727
— 40%	582
— 30%	436
— 20%	291
— 10%	145
— 5%	73

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:David
 Test Date:2018-01-23

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:26.000m [K=1.0000]
 Remarks:

COEFFICIENT OF UTILIZATION CURVE
AND ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: David
Test Date: 2018-01-23

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.0.287
Humidity: 65.0%
Test Distance: 26.000m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

Test:U:120.0V I:0.2002A P:23.77W PF:0.9895 Lamp Flux:2957.14x1 lm		
NAME:	TYPE:83328	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: P.Q.L., Inc.	SUR.:0.2*0.28	PROTECTION ANGLE:

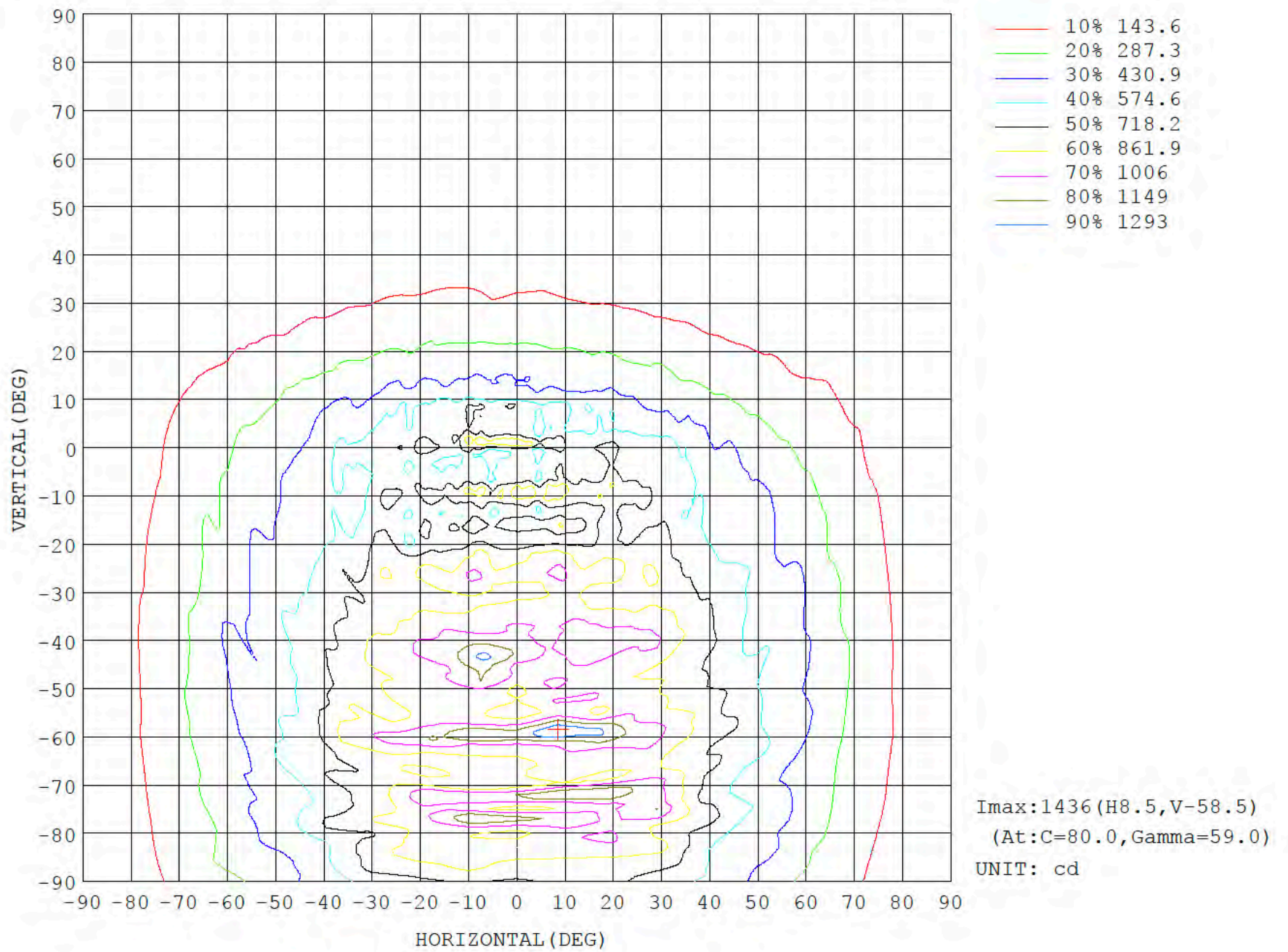
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum
10	722.3	779.7	937.4	693.1	838.4	675.2	537.8	645.4	0- 10	64.66	64.66	2.19
20	790.1	693.2	663.1	635.7	782.2	405.0	318.5	375.5	10- 20	174.2	238.9	8.08
30	646.2	811.6	815.0	702.3	654.1	262.9	153.2	238.6	20- 30	259.4	498.3	16.9
40	448.8	833.0	1100	764.5	536.2	147.9	97.95	124.6	30- 40	320.5	818.8	27.7
50	381.4	898.6	817.6	822.8	384.5	89.06	55.93	75.52	40- 50	370.6	1189	40.2
60	259.7	747.3	1220	743.9	268.6	51.01	54.20	44.86	50- 60	372.6	1562	52.8
70	160.0	701.2	806.3	663.9	180.2	28.24	16.37	23.75	60- 70	371.6	1933	65.4
80	63.79	677.3	821.9	598.3	78.87	9.311	1.454	8.064	70- 80	355.5	2289	77.4
90	23.26	470.9	686.9	433.4	23.30	4.789	2.081	4.704	80- 90	292.9	2582	87.3
100	20.69	226.1	609.8	249.7	19.19	3.712	3.068	3.614	90-100	205.8	2788	94.3
110	19.14	76.30	200.9	67.15	16.73	2.607	3.105	2.569	100-110	85.35	2873	97.2
120	12.03	63.13	134.9	62.90	12.84	2.320	2.947	2.100	110-120	38.43	2911	98.5
130	6.671	39.00	72.55	35.33	6.350	1.370	1.942	1.393	120-130	24.71	2936	99.3
140	2.666	23.67	51.61	22.48	2.592	1.233	1.654	1.124	130-140	13.26	2949	99.7
150	1.713	4.574	27.70	4.678	1.543	1.222	1.386	1.180	140-150	5.797	2955	99.9
160	1.447	1.080	1.208	0.9862	1.118	1.270	1.212	1.110	150-160	1.397	2957	100
170	1.432	1.263	1.363	1.122	1.427	1.659	1.677	1.267	160-170	0.3542	2957	100
180	1.641	1.601	1.677	1.311	1.475	1.728	1.678	1.158	170-180	0.1356	2957	100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:David
Test Date:2018-01-23

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.287
Humidity:65.0%
Test Distance:26.000m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

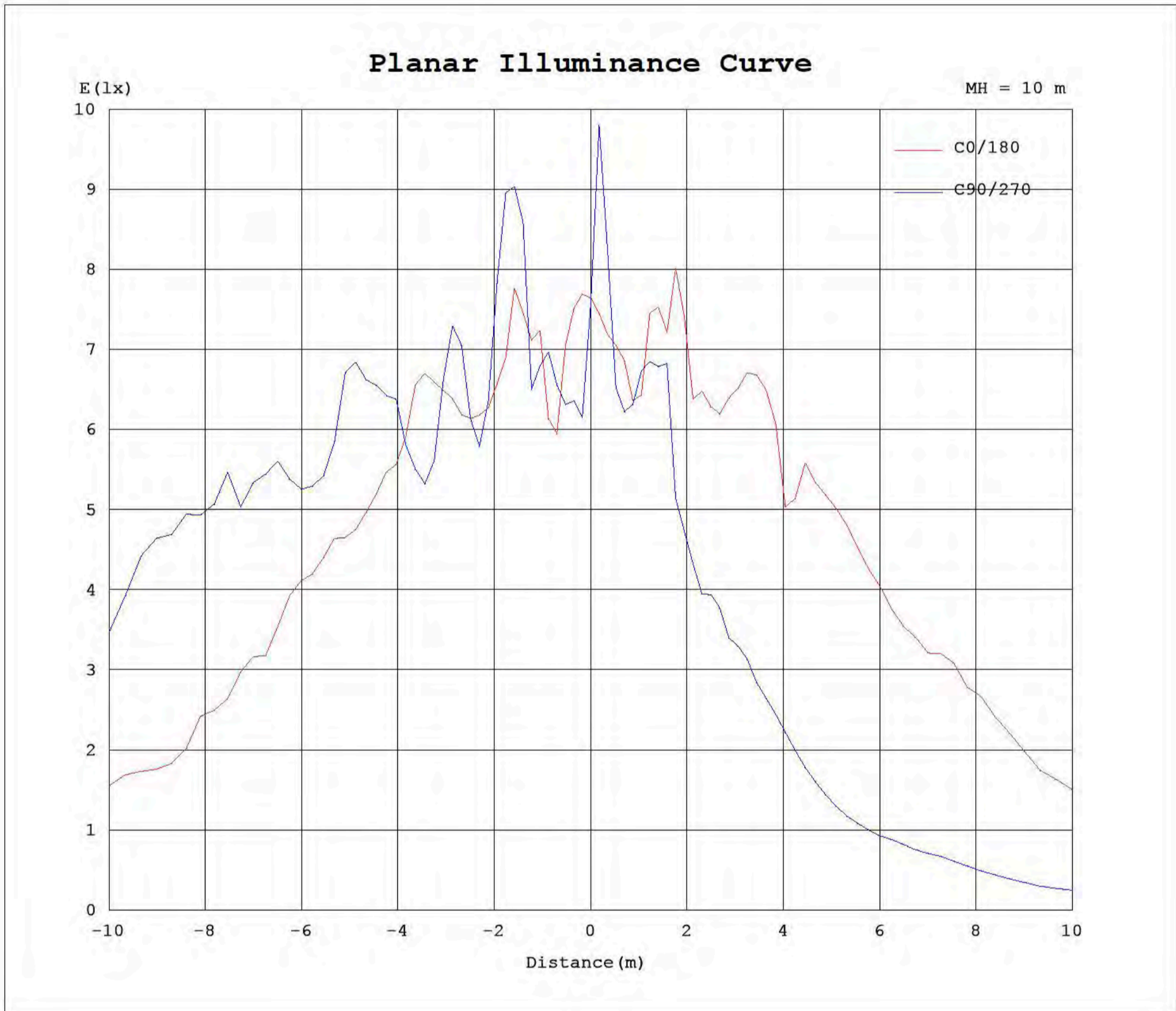
Test:U:120.0V I:0.2002A P:23.77W PF:0.9895 Lamp Flux:2957.14x1 lm		
NAME:	TYPE: 83328	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: P.Q.L., Inc.	SUR.:0.2*0.28	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:David
 Test Date:2018-01-23

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:26.000m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: David
Test Date: 2018-01-23

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.0.287
Humidity: 65.0%
Test Distance: 26.000m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.0V I:0.2002A P:23.77W PF:0.9895 Lamp Flux:2957.14x1 lm		
NAME:	TYPE: 83328	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: P.Q.L., Inc.	SUR.:0.2*0.28	PROTECTION ANGLE:

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
0	764	763	763	761	762	760	763	763	762	757	759	760	760	763	763	763	762	762	764
5	620	496	512	536	586	676	704	710	711	704	685	649	643	617	586	553	509	487	643
10	722	610	723	760	674	885	744	909	867	937	814	879	709	723	663	642	618	625	838
15	686	604	704	733	794	758	646	608	798	782	741	539	696	693	780	657	620	532	687
20	790	730	789	891	604	782	743	660	675	663	663	665	728	710	562	803	659	610	782
25	666	645	797	672	837	664	836	976	891	889	831	940	796	603	758	595	704	598	717
30	646	599	705	659	714	909	911	950	845	815	862	960	935	852	553	657	743	582	654
35	576	574	628	812	846	840	795	936	922	970	917	836	820	803	798	715	542	564	584
40	449	563	599	707	834	832	954	1129	932	1100	1061	1023	966	738	791	619	598	554	536
45	438	534	536	674	833	996	1107	1087	927	979	1233	1118	1031	803	735	674	521	504	425
50	381	471	553	679	844	953	934	919	1034	818	1044	994	963	896	749	607	505	432	385
55	302	422	517	626	778	848	942	896	899	769	885	948	885	842	736	585	497	403	326
60	260	363	504	541	681	814	949	1315	1380	1220	1276	1075	826	858	630	556	453	340	269
65	236	314	462	540	678	888	1044	906	948	813	806	830	964	911	613	433	426	321	225
70	160	270	413	490	670	732	902	846	854	806	719	815	753	719	609	499	402	239	180
75	110	243	336	510	532	718	1077	966	844	805	866	1028	789	668	565	417	341	198	127
80	63.8	174	269	401	579	776	827	1003	965	822	874	875	827	738	458	404	269	182	78.9
85	33.1	122	232	344	503	574	850	881	868	890	928	928	811	542	498	315	211	130	42.4
90	23.3	70.7	160	250	401	541	650	748	770	687	741	691	616	515	352	252	173	78.2	23.3
95	22.6	49.5	102	207	320	437	523	585	695	666	666	615	513	415	330	209	113	49.9	21.1
100	20.7	25.0	52.0	78.2	156	296	452	591	565	610	643	569	417	308	191	94.4	54.6	25.8	19.2
105	8.10	9.69	40.1	60.5	76.8	136	206	244	260	269	296	282	191	155	70.1	49.2	39.5	11.2	12.9
110	19.1	21.0	39.0	74.0	70.8	81.8	103	144	202	201	217	149	99.6	74.3	60.0	61.1	42.0	15.7	16.7
115	15.6	17.2	29.4	46.2	70.6	79.8	76.9	114	126	133	125	121	80.9	66.3	61.6	53.5	30.0	16.3	16.7
120	12.0	12.9	20.0	33.3	48.2	78.1	82.3	116	139	135	123	117	82.9	78.2	47.6	33.0	20.3	12.6	12.8
125	8.88	9.49	14.0	22.0	31.2	48.0	62.6	89.7	112	115	112	100	67.7	53.3	32.1	24.4	14.4	9.05	9.08
130	6.67	7.02	9.19	17.5	34.5	43.5	49.7	65.0	69.7	72.6	69.7	65.6	49.6	43.3	27.4	15.9	9.32	6.88	6.35
135	2.78	4.73	5.58	11.5	26.7	40.8	51.3	60.7	67.5	67.2	65.5	60.8	46.4	41.8	28.2	11.7	6.26	3.18	3.02
140	2.67	3.99	1.59	5.78	16.4	31.0	42.8	47.9	50.8	51.6	50.6	47.6	46.2	28.9	16.1	6.21	2.68	3.90	2.59
145	2.26	2.78	1.80	2.58	6.12	16.7	27.7	33.1	32.3	32.1	34.8	34.0	28.8	17.3	7.48	2.41	1.26	2.82	2.04
150	1.71	1.85	1.63	1.42	1.48	7.66	16.7	21.5	26.2	27.7	25.5	21.7	17.1	8.15	1.20	1.09	1.52	1.82	1.54
155	1.52	1.47	1.54	1.40	1.03	1.05	3.00	7.86	10.7	11.7	10.9	7.90	3.77	1.00	0.91	1.07	1.13	1.22	1.22
160	1.45	1.46	1.44	1.37	1.12	1.04	1.18	2.20	1.31	1.21	1.22	1.12	1.06	1.00	0.97	1.07	1.17	1.18	1.12
165	1.44	1.45	1.34	1.35	1.33	1.07	1.24	1.45	1.29	1.21	1.23	1.18	1.04	1.03	1.02	1.07	1.21	1.22	1.19
170	1.43	1.43	1.44	1.43	1.43	1.10	1.29	1.26	1.31	1.36	1.24	1.24	1.04	1.06	1.18	1.12	1.26	1.33	1.43
175	1.50	1.45	1.44	1.55	1.47	1.35	1.34	1.37	1.40	1.39	1.36	1.29	1.03	1.28	1.30	1.29	1.50	1.41	1.49
180	1.64	1.75	1.44	1.64	1.78	1.42	1.34	1.42	1.76	1.68	1.41	1.31	1.03	1.28	1.34	1.33	1.50	1.65	1.47

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:David
 Test Date:2018-01-23

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:26.000m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.0V I:0.2002A P:23.77W PF:0.9895 Lamp Flux:2957.14x1 lm		
NAME:	TYPE:83328	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: P.Q.L., Inc.	SUR.:0.2*0.28	PROTECTION ANGLE:

Table--2

UNIT: cd

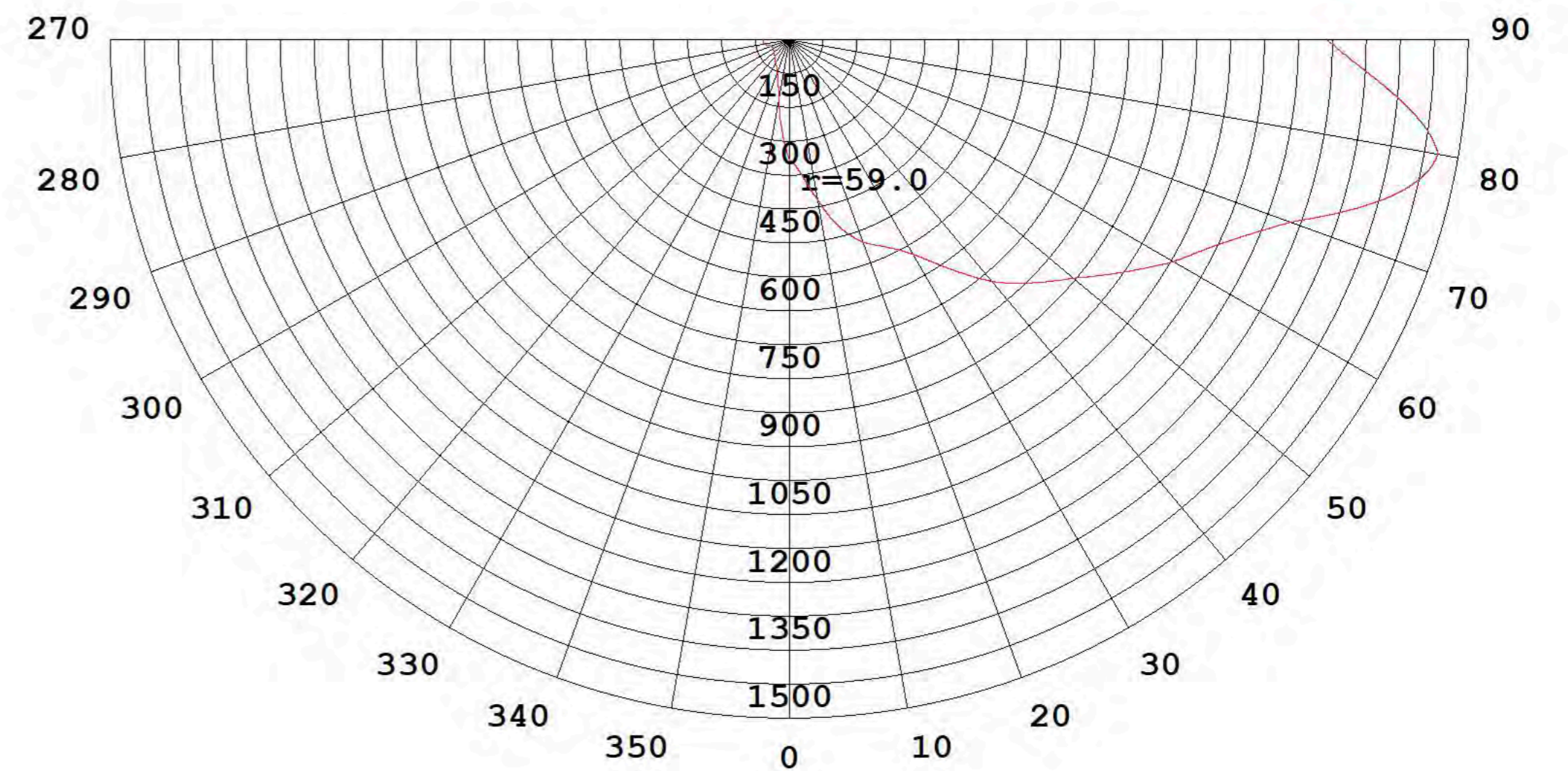
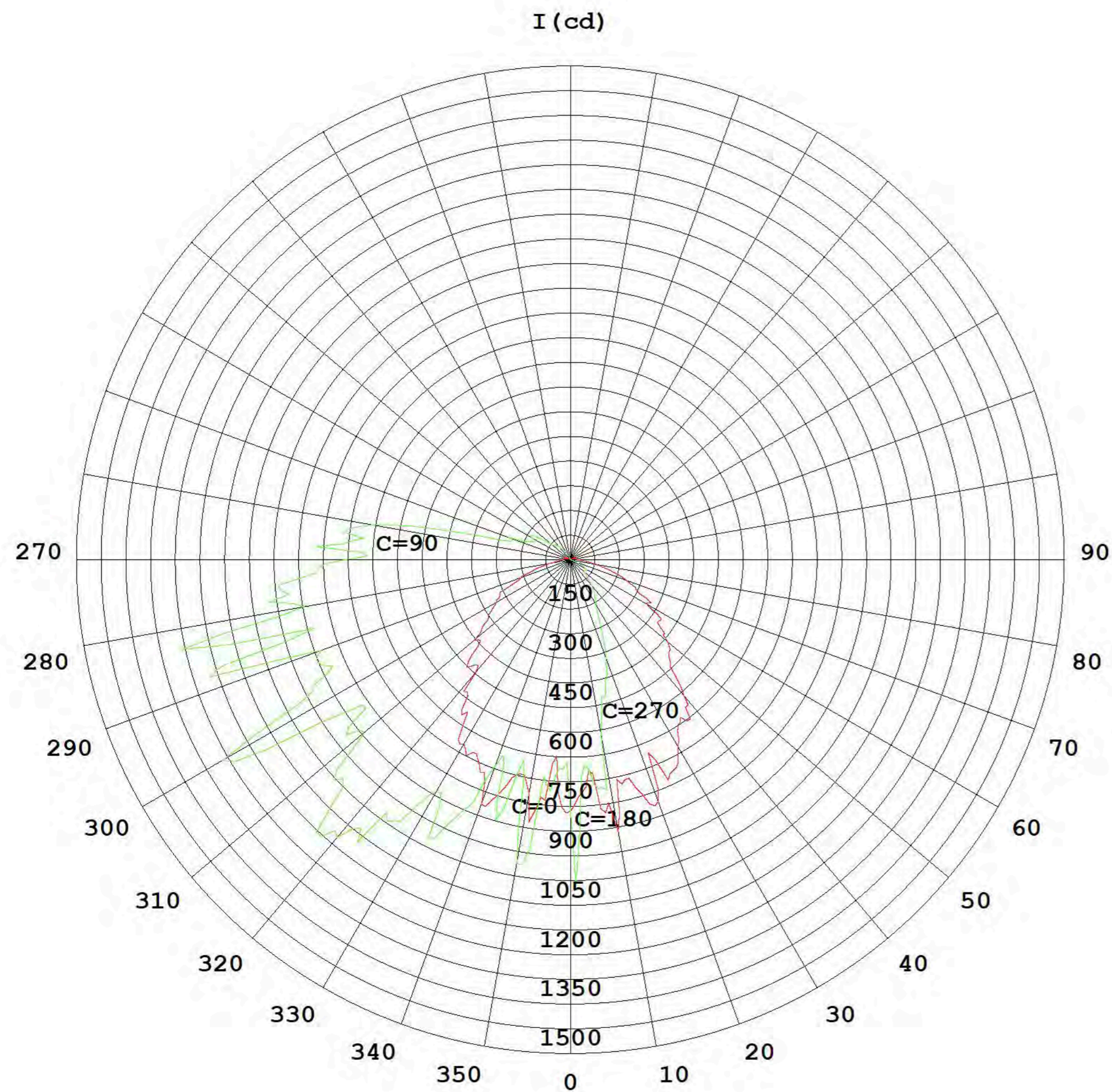
C (DEG) γ (DEG)	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350		
0	763	763	761	762	760	763	763	762	757	759	760	760	763	763	763	762	762		
5	902	871	730	634	634	616	633	635	638	656	608	589	602	553	538	644	725		
10	967	680	640	731	620	709	622	559	538	532	568	598	637	654	668	602	718		
15	661	631	616	577	520	459	427	457	418	436	377	412	438	479	557	546	573		
20	671	632	534	414	396	387	321	328	319	324	342	335	358	393	470	554	575		
25	611	602	382	387	326	283	244	221	215	209	235	254	276	362	373	469	517		
30	533	444	388	276	250	193	181	150	153	155	167	172	232	245	307	359	462		
35	461	354	284	218	161	157	142	128	129	133	129	135	150	176	257	313	404		
40	432	313	204	160	135	120	109	103	98.0	101	103	108	116	133	172	248	351		
45	351	218	154	115	110	93.7	82.0	72.6	70.5	71.4	78.5	83.6	93.7	99.8	122	175	294		
50	271	164	114	94.3	83.8	66.9	61.3	56.1	55.9	56.7	57.4	60.8	72.8	78.3	91.6	138	220		
55	212	120	86.6	73.2	61.5	55.0	51.9	55.7	54.7	51.2	43.8	47.4	54.2	62.2	70.8	101	176		
60	163	89.1	70.4	55.1	47.0	46.7	48.6	52.3	54.2	55.6	43.1	40.0	41.3	48.5	58.7	74.4	125		
65	120	71.4	55.2	44.1	36.1	36.0	36.4	34.5	32.1	33.5	35.9	31.4	30.5	37.5	46.3	58.5	96.2		
70	82.7	57.2	43.6	31.8	24.7	24.5	22.1	18.4	16.4	14.4	15.7	22.7	20.3	27.2	37.1	45.7	61.0		
75	59.7	44.8	33.5	22.0	16.4	11.6	6.94	4.77	3.69	3.62	4.25	7.53	12.8	17.7	28.8	36.8	43.5		
80	41.2	35.0	23.9	13.1	5.56	2.12	1.38	1.45	1.45	1.41	1.31	2.30	5.41	10.7	20.0	29.7	30.3		
85	30.5	27.9	16.1	8.25	4.10	2.04	1.70	1.77	1.79	1.79	1.66	2.08	4.04	8.23	15.6	24.2	23.9		
90	25.6	22.5	13.0	6.27	3.31	2.01	1.93	2.04	2.08	2.06	1.93	2.12	3.13	6.28	12.7	20.8	23.6		
95	24.5	19.1	10.6	5.24	3.02	2.47	2.58	2.85	2.95	2.63	2.64	2.39	3.03	5.32	11.0	18.2	23.2		
100	21.7	16.0	8.88	4.47	2.95	2.54	2.80	3.05	3.07	2.67	2.76	2.34	2.83	4.40	6.53	12.7	17.7		
105	10.8	5.07	2.75	2.99	2.89	2.59	2.93	3.19	3.09	2.71	2.74	2.33	2.54	2.50	4.90	2.75	6.66		
110	15.4	4.06	5.69	2.93	2.29	2.65	2.87	3.14	3.11	2.76	2.70	2.32	2.23	2.91	5.22	6.84	15.1		
115	13.7	2.95	4.35	2.93	2.45	2.69	2.95	3.12	3.03	2.80	2.71	2.30	2.09	2.61	3.78	4.63	11.6		
120	9.63	2.29	3.23	2.38	2.26	2.56	2.98	3.14	2.95	2.84	2.57	2.13	1.90	2.30	2.87	3.24	8.07		
125	6.54	1.80	2.51	1.89	1.72	2.01	2.31	2.44	2.46	2.52	2.17	1.80	1.61	1.70	2.32	2.63	5.71		
130	4.79	1.44	1.92	1.38	1.36	1.73	1.81	1.74	1.94	1.85	1.86	1.67	1.34	1.44	1.89	1.99	4.17		
135	2.16	1.44	1.78	1.31	1.27	1.45	1.67	1.72	1.83	1.70	1.50	1.31	1.31	1.27	1.65	1.35	2.93		
140	2.58	1.82	1.38	1.28	1.18	1.43	1.40	1.47	1.65	1.59	1.39	1.28	1.11	1.14	1.52	1.69	2.27		
145	1.90	1.58	1.25	1.28	1.17	1.41	1.40	1.47	1.63	1.63	1.38	1.07	1.10	1.08	1.37	1.41	1.63		
150	1.47	1.42	1.24	1.29	1.16	1.13	1.35	1.38	1.39	1.38	1.30	1.06	1.04	1.32	1.31	1.26	1.28		
155	1.24	1.24	1.22	1.29	1.15	1.14	1.30	1.32	1.27	1.27	1.20	1.06	1.02	1.25	1.28	1.20	1.15		
160	1.16	1.19	1.21	1.31	1.23	1.15	1.23	1.30	1.21	1.22	1.18	1.07	1.01	1.21	1.26	1.22	1.12		
165	1.24	1.23	1.22	1.34	1.31	1.15	1.16	1.27	1.28	1.23	1.22	1.07	1.00	1.17	1.30	1.24	1.13		
170	1.52	1.49	1.34	1.62	1.70	1.43	1.31	1.31	1.68	1.56	1.61	1.34	1.13	1.41	1.53	1.52	1.31		
175	1.60	1.67	1.43	1.70	1.80	1.43	1.33	1.36	1.72	1.69	1.57	1.31	1.22	1.43	1.67	1.55	1.45		
180	1.64	1.75	1.43	1.66	1.79	1.41	1.33	1.38	1.68	1.63	1.42	1.29	1.02	1.29	1.37	1.32	1.50		

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:David
 Test Date:2018-01-23

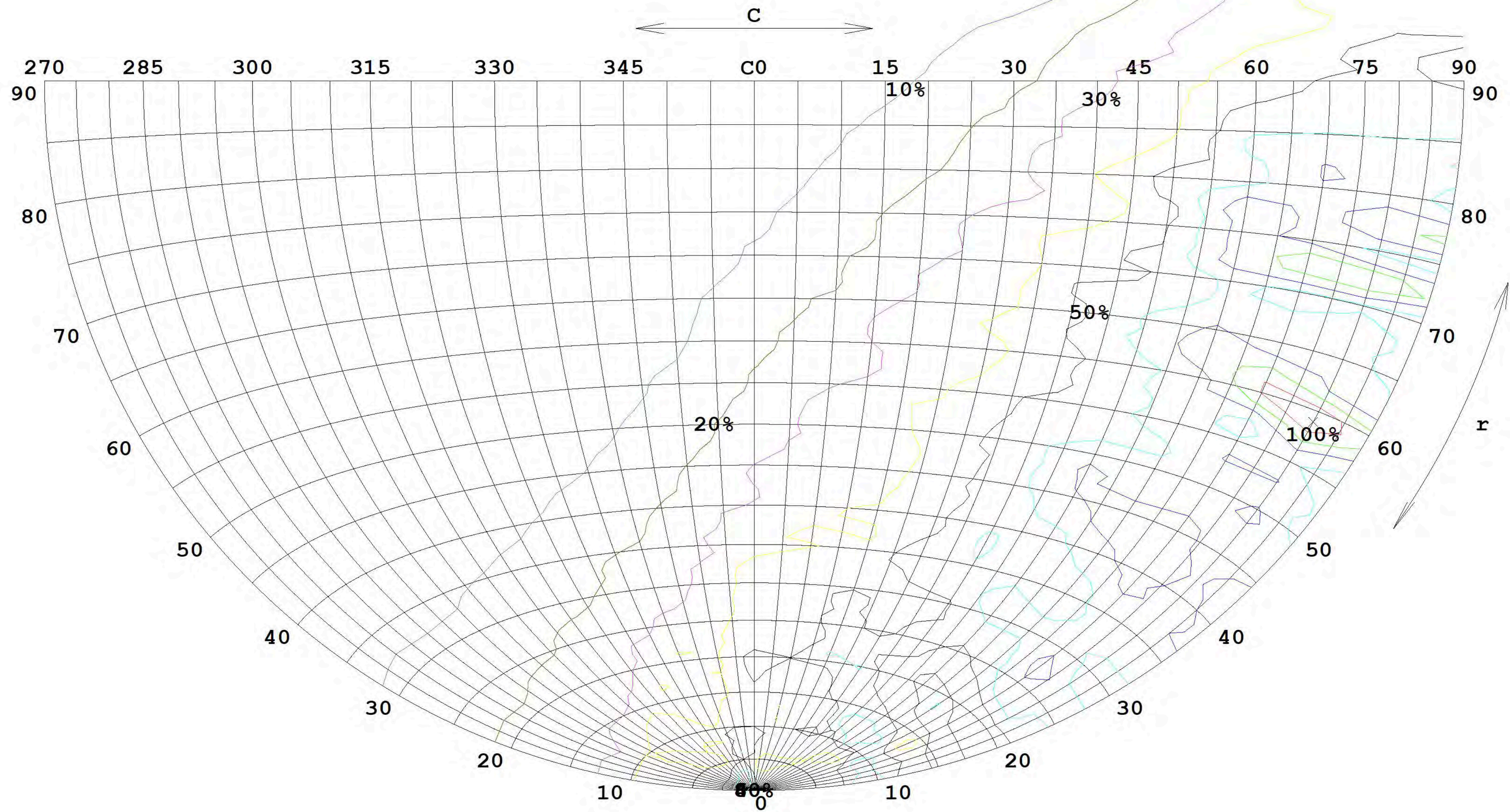
γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:26.000m [K=1.0000]
 Remarks:

FLUX DATA:

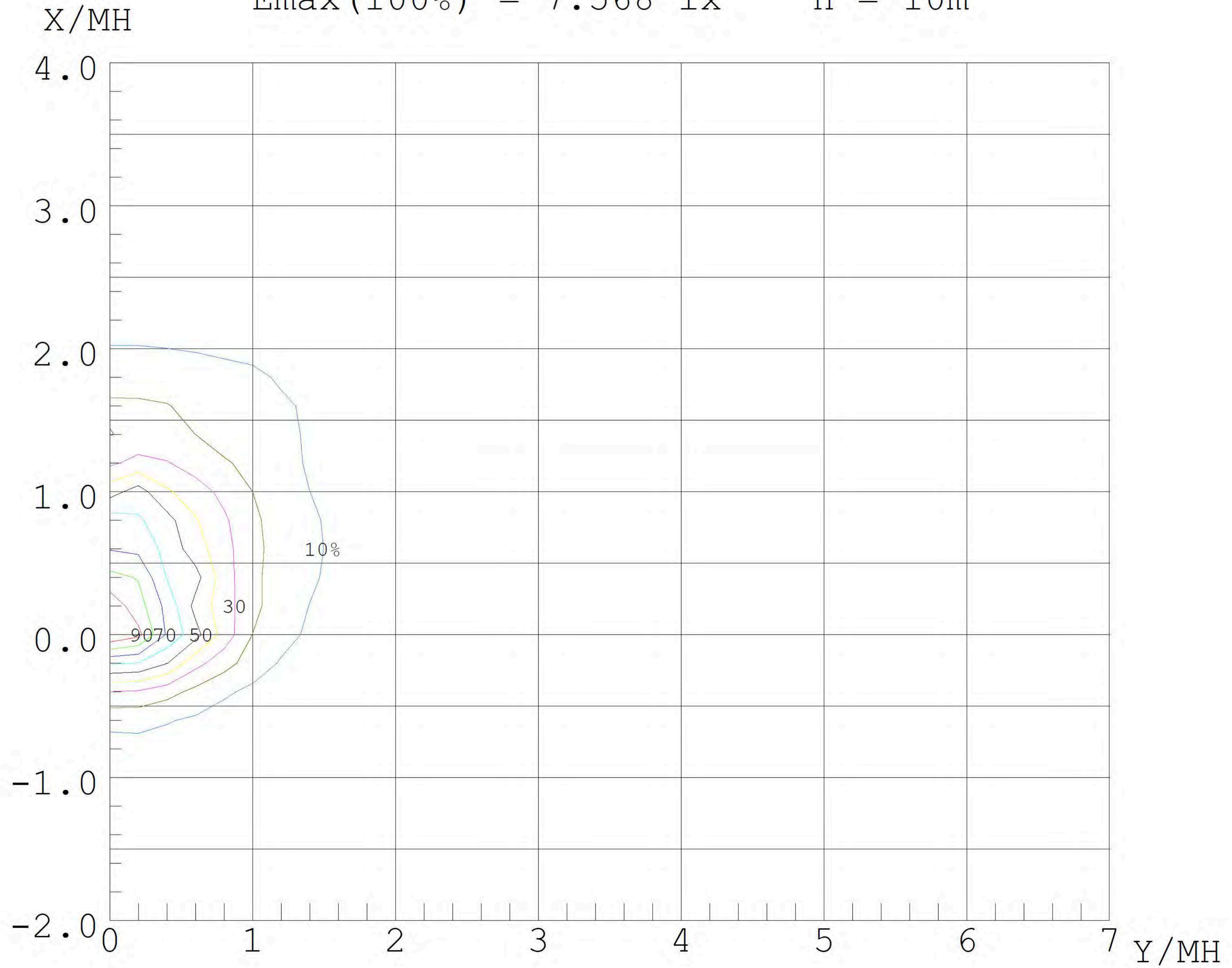
LOR:	100.0 %
STREET DOWN:	2162 lm
STREET UP:	362.2 lm
HOUSE DOWN:	419.9 lm
HOUSE UP:	13.07 lm



$I_{max}(100\%) = 1455 \text{ cd}$



$E_{\max}(100\%) = 7.568 \text{ lx}$ $H = 10\text{m}$



UF (%)

80

70

60

50

40

30

20

10

0

-2

-1

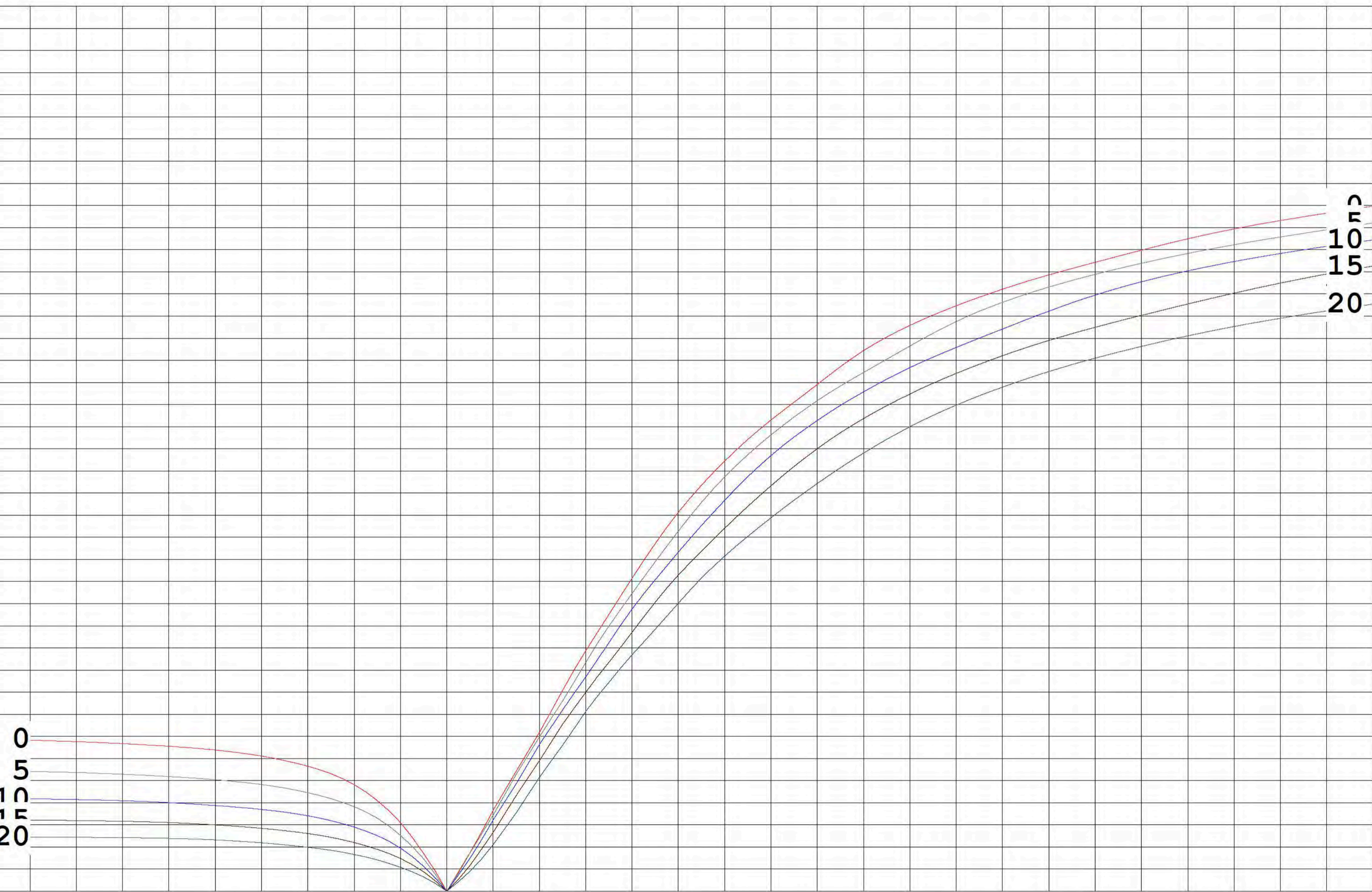
0

1

2

3

4 X/MH



0
5
10
15
20

0
5
10
15
20