

Report No.:

Test Time: 2019/11/29 9:45:36

## LUMINAIRE PHOTOMETRIC TEST REPORT

### Luminaire Property

Manufacturer:  
Luminaire Type: 12V-2835-420L-3000K  
Lamp Type:  
Luminous Width: 0 mm  
Luminous Length: 0 mm  
Luminous Height: 0 mm

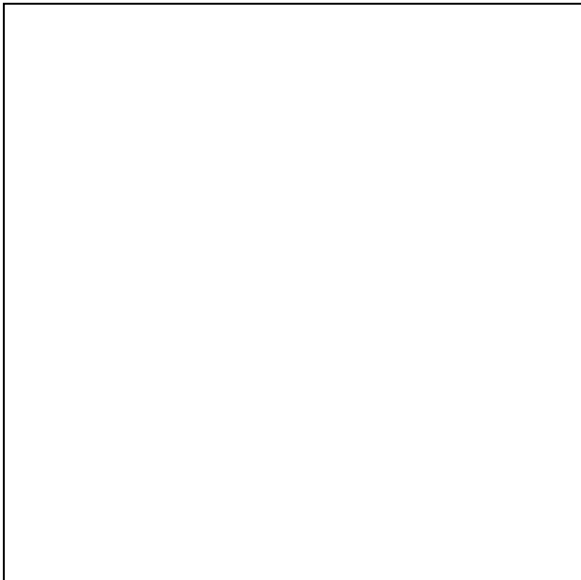
Voltage(V): 12.00 V  
Current(A): 2.7100 A  
Power(W): 32.52 W  
Power Factor: 1.0000  
Lamp Luminous Flux: 3224.19

### Photometric Results

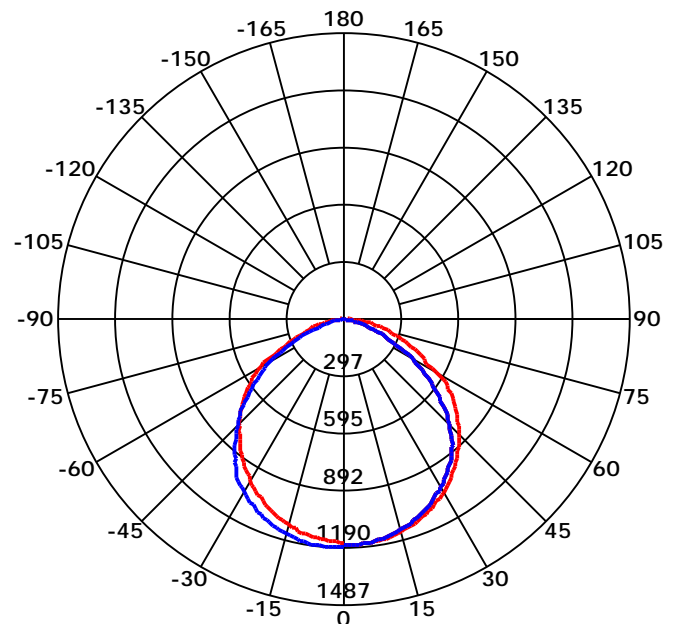
CIE Class: Direct  
Luminaire Luminous Flux: 3224.193  
Downward Ratio: 0.00%  
Luminaire Efficacy Rating(LER): 99.14 lm/W  
Beam Angle(50%Imax): L=-52.55 R=58.48  
Field Angle(10%Imax): L=-74.84 R=81.02

Max. Intensity: 1189.52 cd  
Max.Intensity Angle: C=315 Gamma=0  
Upward Ratio: 100.00%  
Efficacy: 100.00%  
Center Intensity: 1171.82 cd

Picture of Luminaire



Luminous Intensity Distribution Curve



Beam Angle(50%Imax): 111.02 deg

C0-180 — C90-270 —

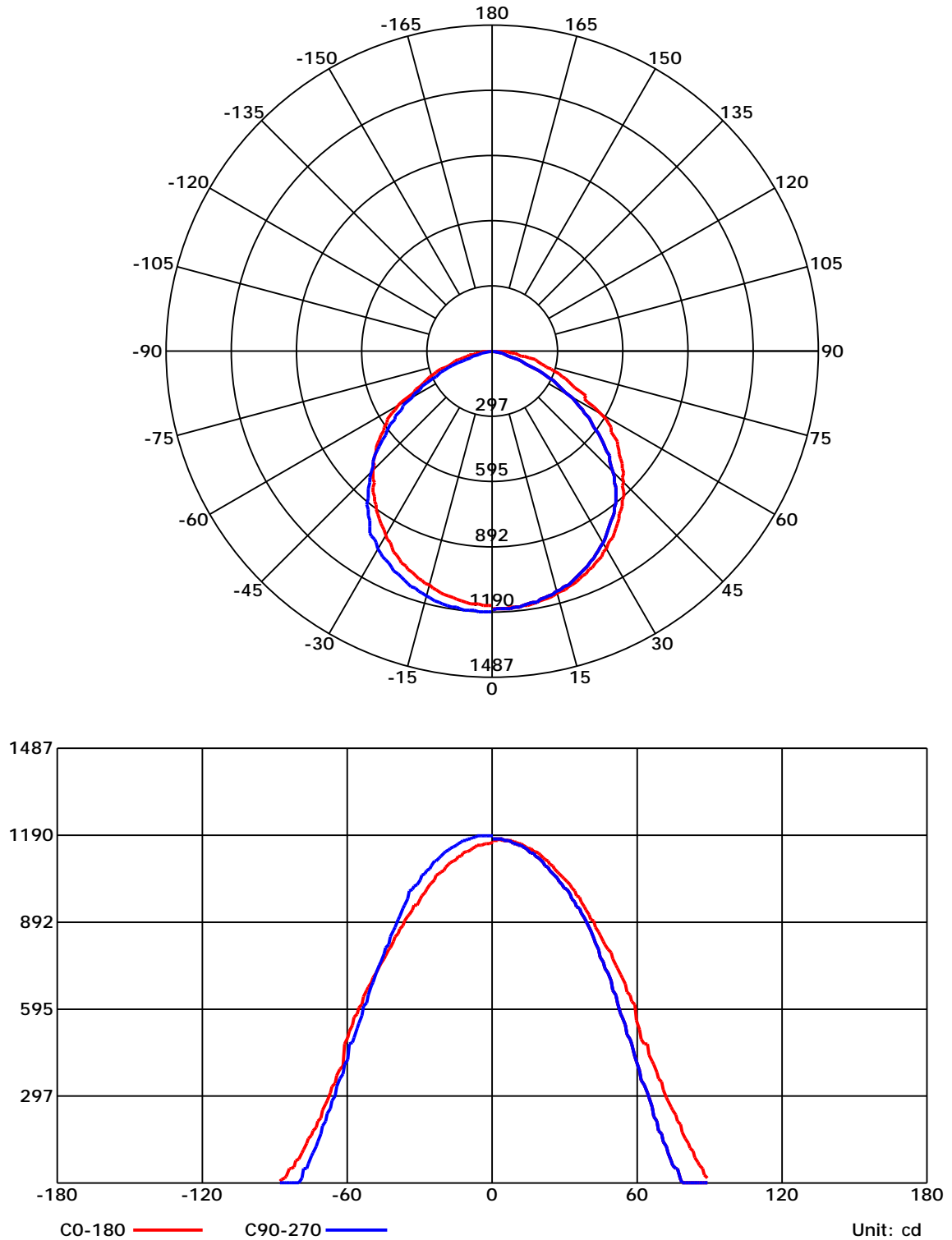
C Range: 0 - 360 Deg  
C Interval: 45.0 Deg  
Test Speed: High  
Temperature:  
Operators:  
Test Date: 2019/11/29 9:45:36

G Range: 0 - 90 Deg  
G Interval: 1.0 Deg  
Test System: Huipu CPM-1800B Goniophotometer  
Humidity:  
Test Distance: 5.95 m  
Remarks:

Report No.:

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## Luminous Intensity Distribution Curve



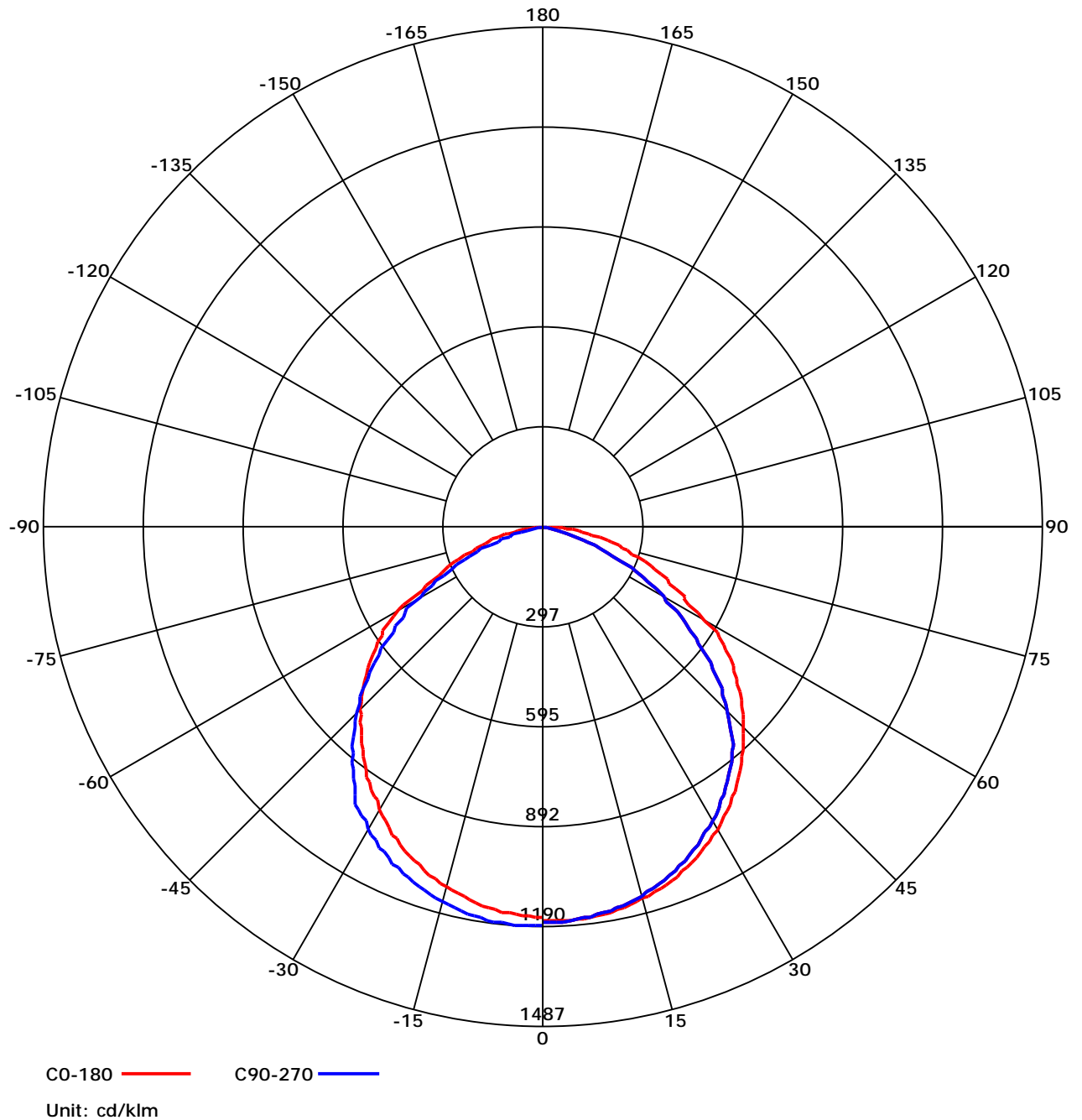
C Range: 0 - 360 Deg  
C Interval: 45.0 Deg  
Test Speed: High  
Temperature:  
Operators:  
Test Date: 2019/11/29 9:45:36

G Range: 0 - 90 Deg  
G Interval: 1.0 Deg  
Test System: Huipu CPM-1800B Goniophotometer  
Humidity:  
Test Distance: 5.95 m  
Remarks:

Report No.:

Test Time: 2019/11/29 9:45:36

## Luminous Intensity Distribution Curve



C Range: 0 - 360 Deg  
C Interval: 45.0 Deg  
Test Speed: High  
Temperature:  
Operators:  
Test Date: 2019/11/29 9:45:36

G Range: 0 - 90 Deg  
G Interval: 1.0 Deg  
Test System: Huipu CPM-1800B Goniophotometer  
Humidity:  
Test Distance: 5.95 m  
Remarks:

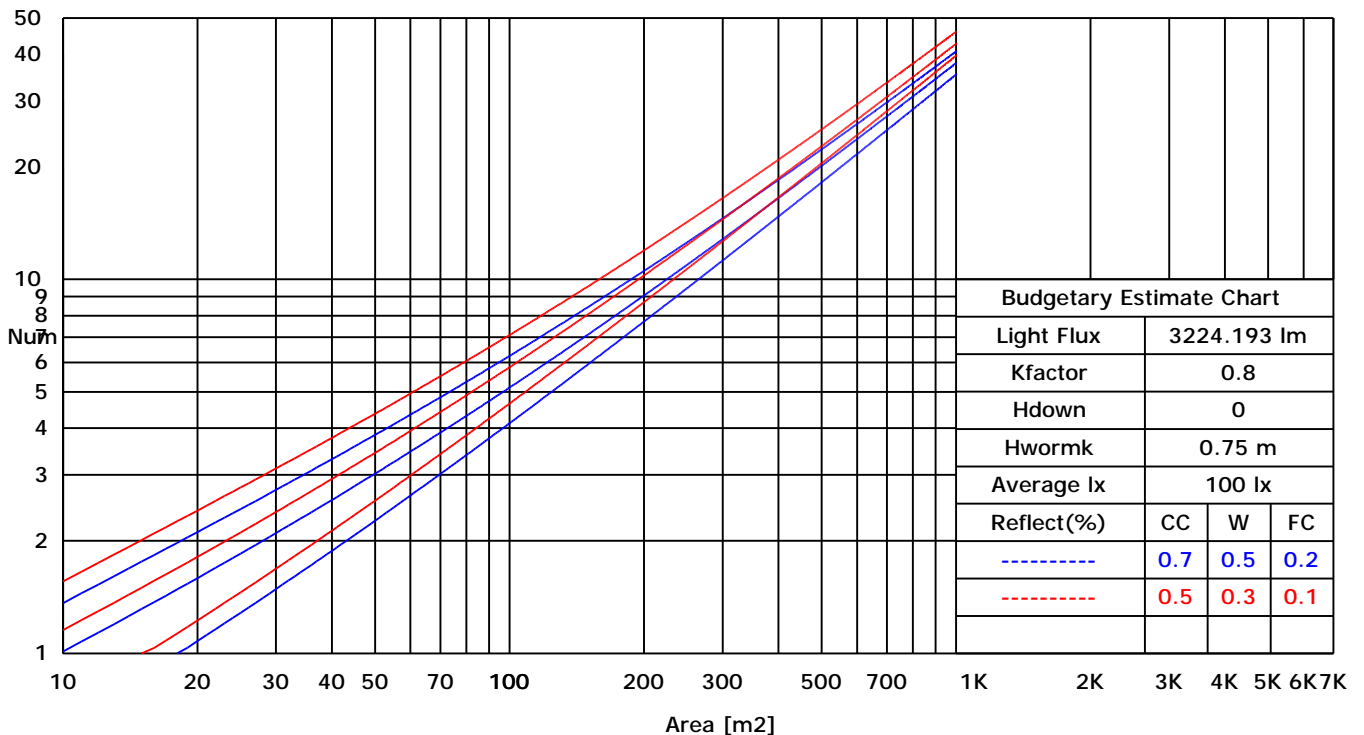
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## UTILIZATION FACTORS TABLE

RHOCC	80			70			50			30			10			0
RHOW	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR	COEFFICIENTS OF UTILIZATION FOR RHOFC=20															
0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.08	1.06	1.05	1.06	1.04	1.03	1.02	1.00	0.99	0.97	0.95	0.93	0.91	0.89	0.87	0.81
2	0.96	0.94	0.93	0.95	0.93	0.91	0.92	0.89	0.87	0.88	0.85	0.83	0.83	0.80	0.77	0.72
3	0.86	0.84	0.82	0.86	0.83	0.81	0.84	0.80	0.77	0.81	0.77	0.73	0.77	0.72	0.69	0.64
4	0.78	0.75	0.74	0.77	0.74	0.72	0.76	0.72	0.69	0.74	0.69	0.66	0.71	0.66	0.62	0.58
5	0.70	0.68	0.66	0.70	0.67	0.65	0.69	0.65	0.62	0.68	0.63	0.59	0.65	0.60	0.56	0.52
6	0.64	0.62	0.60	0.64	0.61	0.59	0.64	0.59	0.56	0.63	0.57	0.54	0.61	0.55	0.51	0.47
7	0.59	0.56	0.55	0.59	0.56	0.54	0.59	0.55	0.52	0.58	0.53	0.49	0.57	0.51	0.46	0.43
8	0.54	0.52	0.51	0.54	0.51	0.50	0.54	0.50	0.47	0.54	0.49	0.45	0.53	0.47	0.43	0.40
9	0.50	0.48	0.47	0.51	0.48	0.46	0.51	0.47	0.44	0.51	0.45	0.42	0.50	0.44	0.40	0.37
10	0.47	0.45	0.44	0.47	0.44	0.43	0.48	0.43	0.41	0.47	0.42	0.39	0.47	0.41	0.37	0.34

## LUMINAIRE BUDGETARY ESTIMATE DIAGRAM



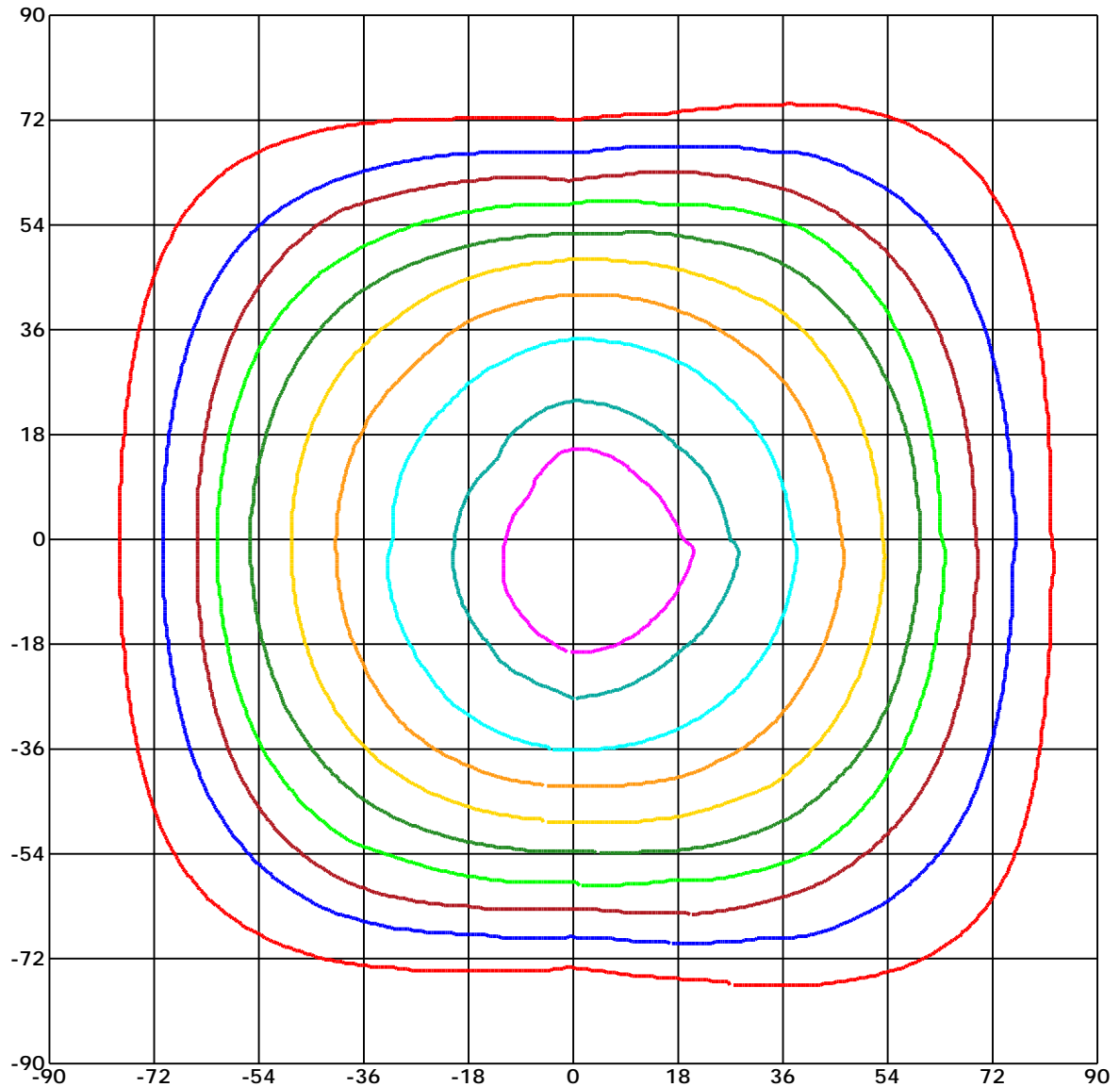
C Range: 0 - 360 Deg  
 C Interval: 45.0 Deg  
 Test Speed: High  
 Temperature:  
 Operators:  
 Test Date: 2019/11/29 9:45:36

G Range: 0 - 90 Deg  
 G Interval: 1.0 Deg  
 Test System: Huipu CPM-1800B Goniophotometer  
 Humidity:  
 Test Distance: 5.95 m  
 Remarks:

Report No.:

Test Time: 2019/11/29 9:45:36

## ISOCANDELA DIAGRAM (RECTANGULAR)



Unit of intensity:cd      Imax(100%): 1189.524 cd

1130.048(95%Imax)	594.762(50%Imax)
1070.572(90%Imax)	475.81(40%Imax)
951.619(80%Imax)	356.857(30%Imax)
832.667(70%Imax)	237.905(20%Imax)
713.714(60%Imax)	118.952(10%Imax)

C Range: 0 - 360 Deg

C Interval: 45.0 Deg

Test Speed: High

Temperature:

Operators:

Test Date: 2019/11/29 9:45:36

G Range: 0 - 90 Deg

G Interval: 1.0 Deg

Test System: Huipu CPM-1800B Goniophotometer

Humidity:

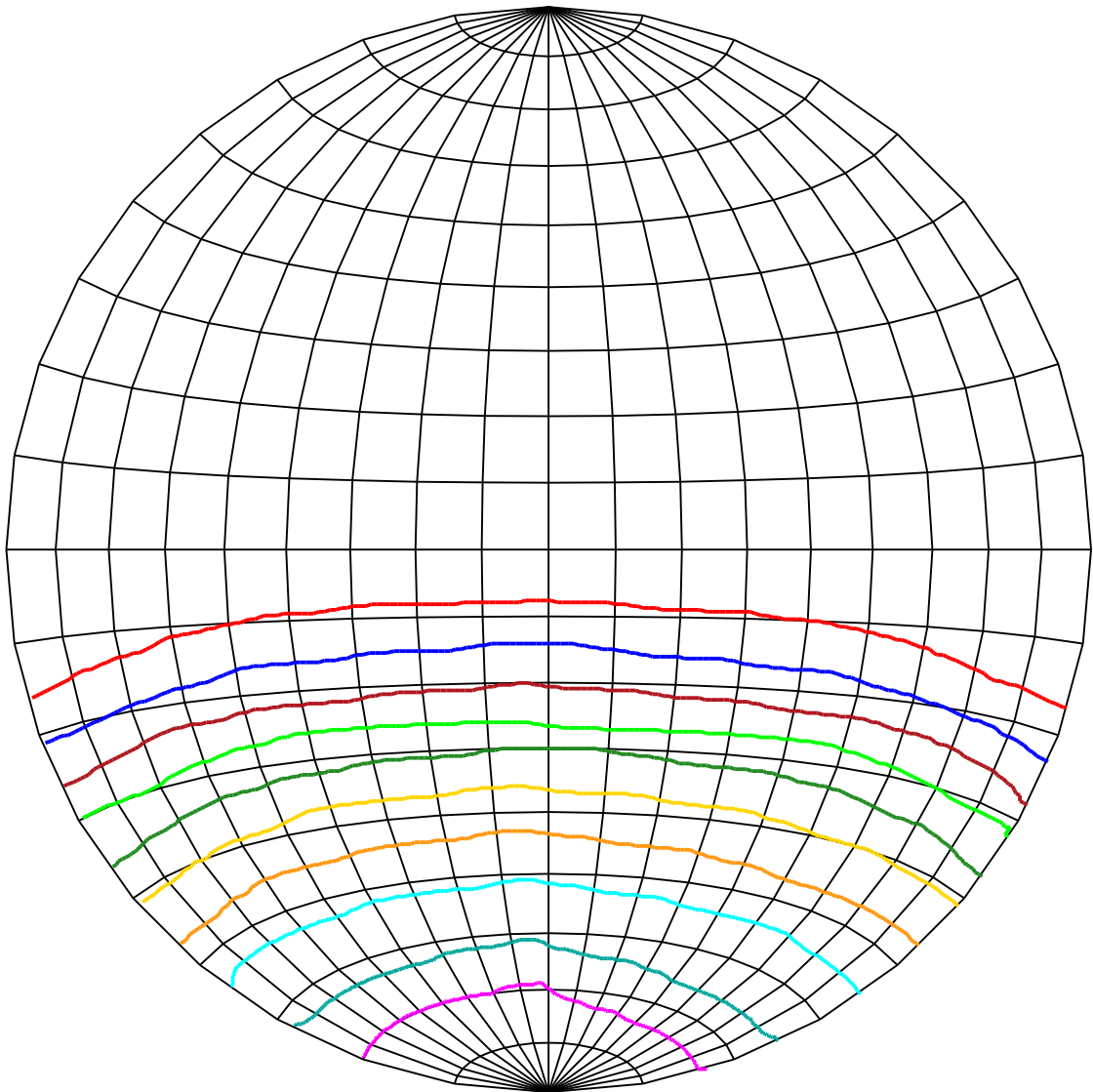
Test Distance: 5.95 m

Remarks:

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Test Time: 2019/11/29 9:45:36

## ISOCANDELA DIAGRAM (SPHERE)



Unit of intensity:cd      I<sub>max</sub>(100%): 1189.524 cd

1130.048(95%I<sub>max</sub>)

594.762(50%I<sub>max</sub>)

1070.572(90%I<sub>max</sub>)

475.81(40%I<sub>max</sub>)

951.619(80%I<sub>max</sub>)

356.857(30%I<sub>max</sub>)

832.667(70%I<sub>max</sub>)

237.905(20%I<sub>max</sub>)

713.714(60%I<sub>max</sub>)

118.952(10%I<sub>max</sub>)

C Range: 0 - 360 Deg

C Interval: 45.0 Deg

Test Speed: High

Temperature:

Operators:

Test Date: 2019/11/29 9:45:36

G Range: 0 - 90 Deg

G Interval: 1.0 Deg

Test System: Huipu CPM-1800B Goniophotometer

Humidity:

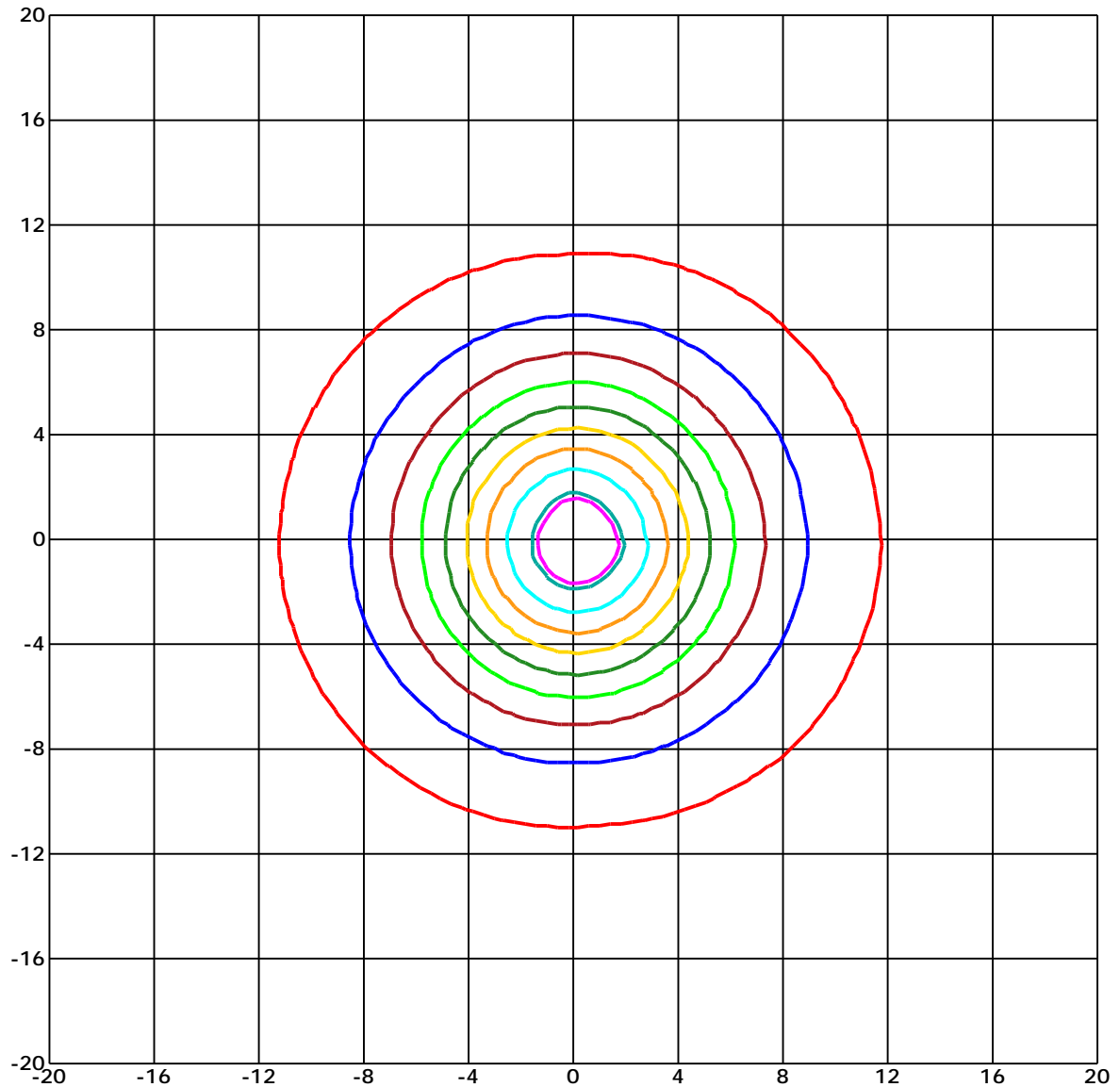
Test Distance: 5.95 m

Remarks:

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## ISOLX DIAGRAM



Unit of illumination: lx      Height of plane: 8.0(m)/26.25(ft)

17.099(1%Emax)	9.293(1%Emax)
16.728(1%Emax)	7.435(1%Emax)
14.869(1%Emax)	5.576(0%Emax)
13.01(1%Emax)	3.717(0%Emax)
11.152(1%Emax)	1.859(0%Emax)

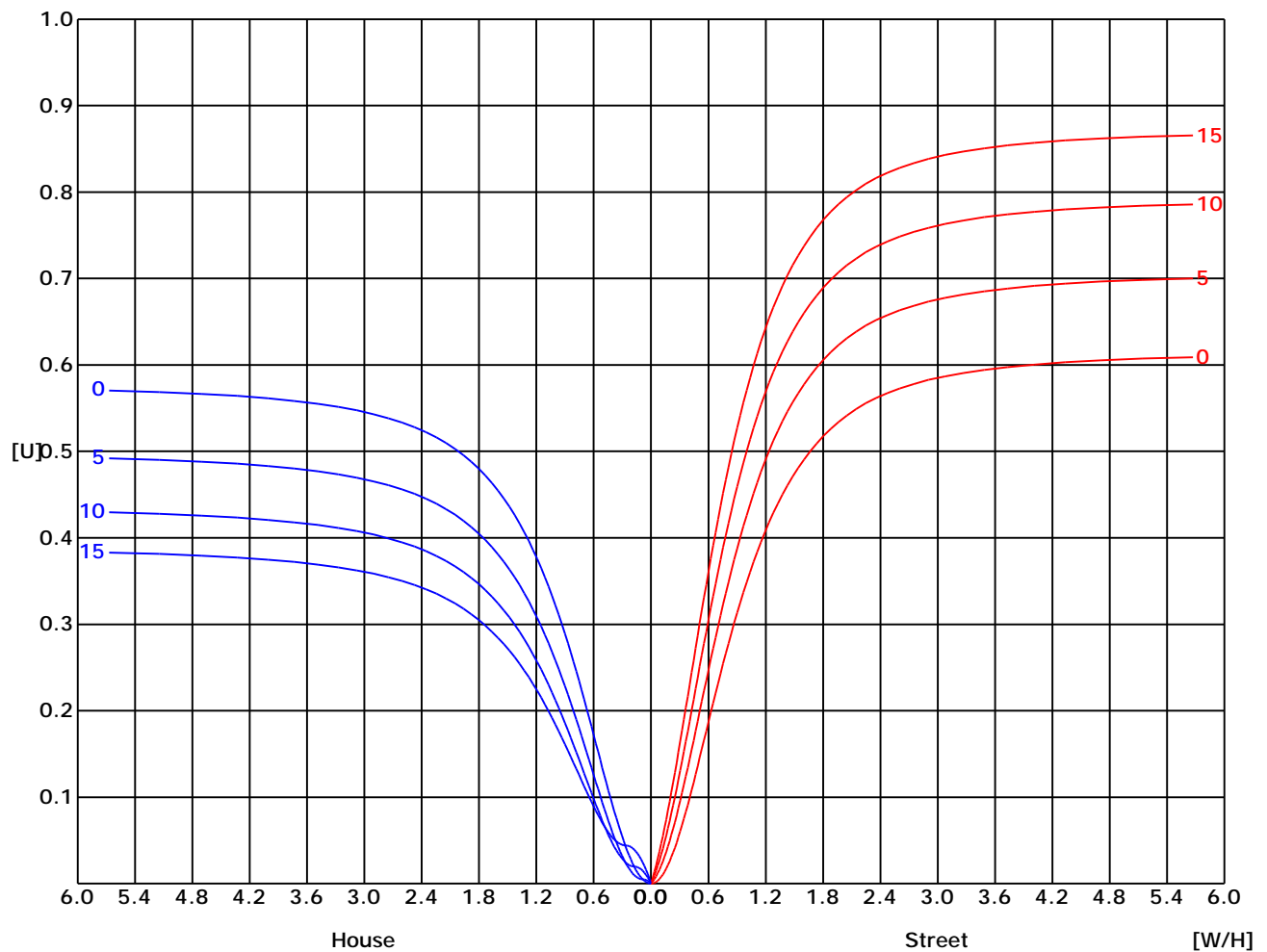
C Range: 0 - 360 Deg  
C Interval: 45.0 Deg  
Test Speed: High  
Temperature:  
Operators:  
Test Date: 2019/11/29 9:45:36

G Range: 0 - 90 Deg  
G Interval: 1.0 Deg  
Test System: Huipu CPM-1800B Goniophotometer  
Humidity:  
Test Distance: 5.95 m  
Remarks:

Report No.:

Test Time: 2019/11/29 9:45:36

## UTILIZATION FACTOR DIAGRAM (ROAD)



C Range: 0 - 360 Deg  
C Interval: 45.0 Deg  
Test Speed: High  
Temperature:  
Operators:  
Test Date: 2019/11/29 9:45:36

G Range: 0 - 90 Deg  
G Interval: 1.0 Deg  
Test System: Huipu CPM-1800B Goniophotometer  
Humidity:  
Test Distance: 5.95 m  
Remarks:

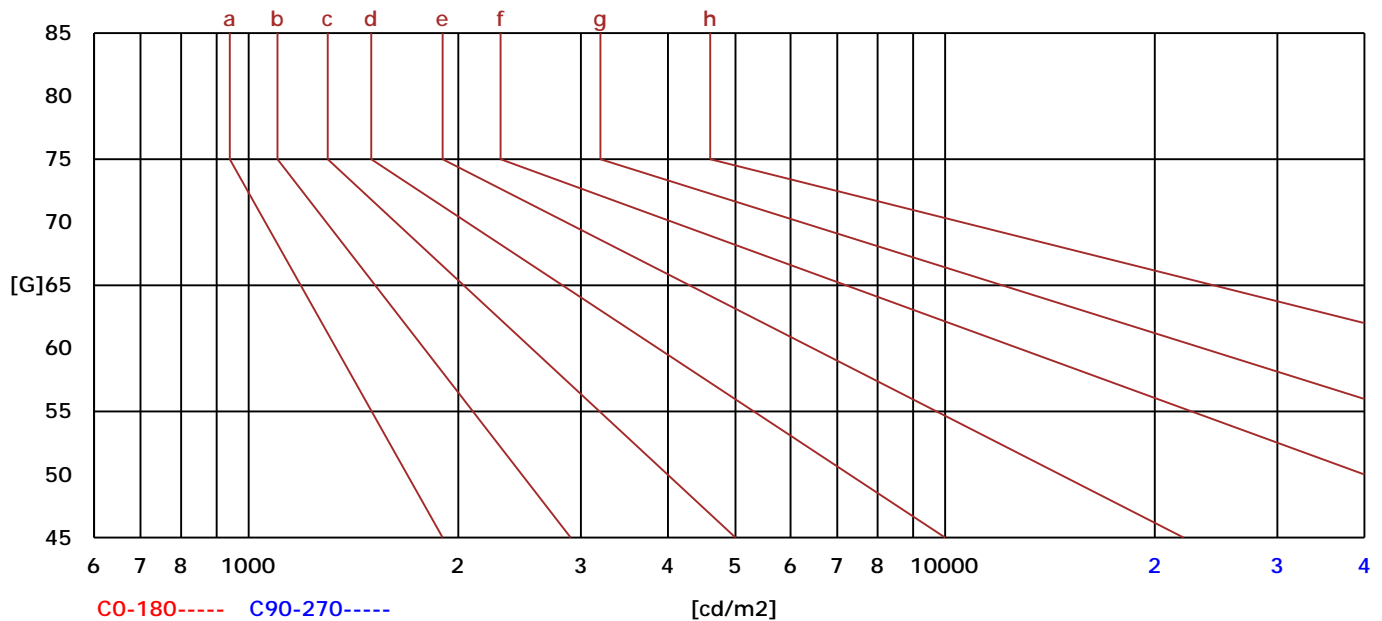


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## BRIGHT LIMIT DIAGRAM

C/G	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0
Dazzle	Quality	Illuminance	---	---	---	---	---	---	---
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
---	---	a	b	c	d	e	f	g	h



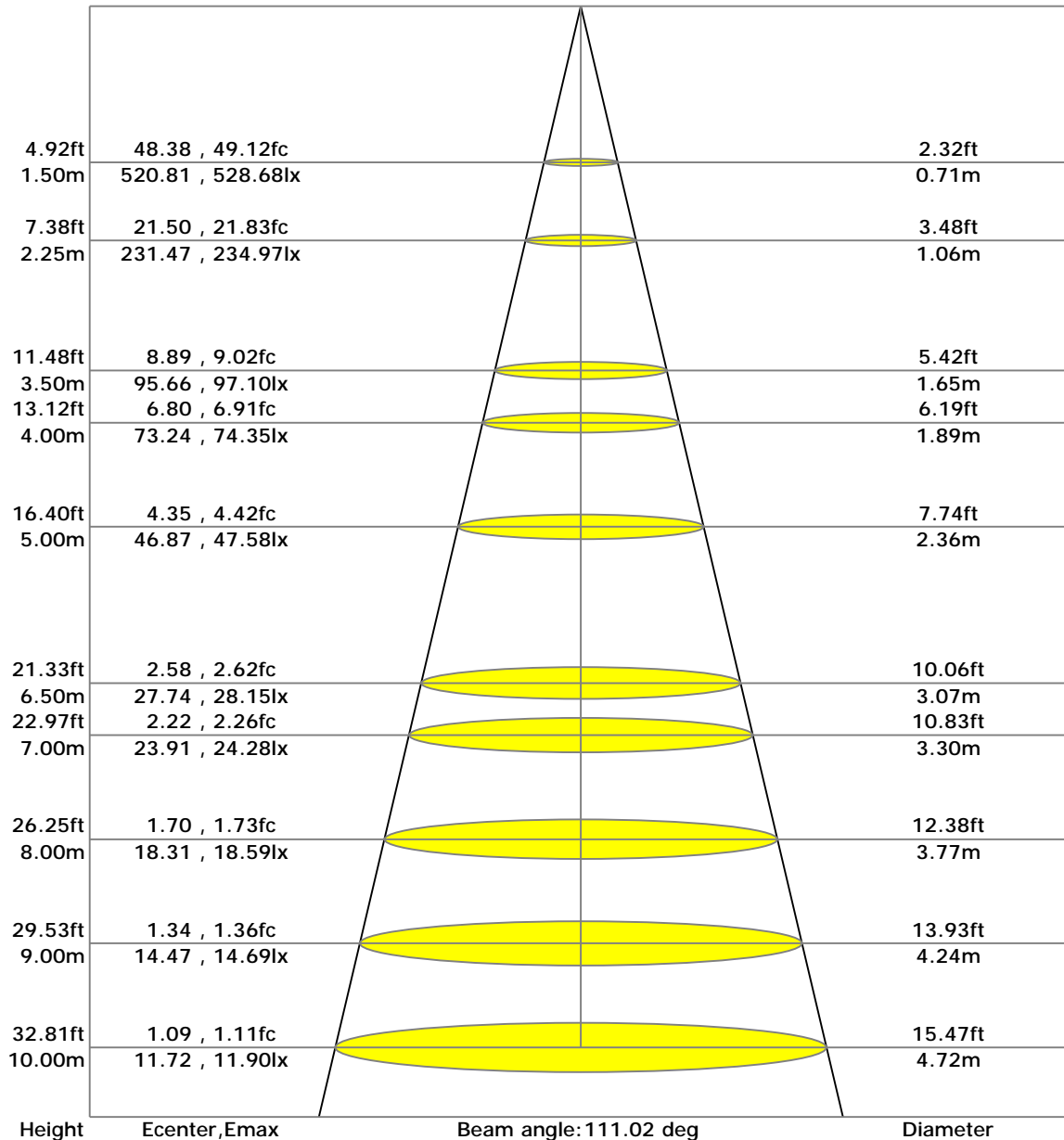
C Range: 0 - 360 Deg  
 C Interval: 45.0 Deg  
 Test Speed: High  
 Temperature:  
 Operators:  
 Test Date: 2019/11/29 9:45:36

G Range: 0 - 90 Deg  
 G Interval: 1.0 Deg  
 Test System: Huipu CPM-1800B Goniophotometer  
 Humidity:  
 Test Distance: 5.95 m  
 Remarks:

Report No.:

Test Time: 2019/11/29 9:45:36

## LX-DISTANCE DIAGRAM



C Range: 0 - 360 Deg

C Interval: 45.0 Deg

Test Speed: High

Temperature:

Operators:

Test Date: 2019/11/29 9:45:36

G Range: 0 - 90 Deg

G Interval: 1.0 Deg

Test System: Huipu CPM-1800B Goniophotometer

Humidity:

Test Distance: 5.95 m

Remarks:

Report No.:

Test Time: 2019/11/29 9:45:36

## UGR(Unified Glare Rating) TABLE

RHOCC	80	80	70	70	70	50	50	50	30	30
RHOW	50	30	10	50	30	10	50	30	10	50
RHOF	20	20	20	20	20	20	20	20	20	20
Room Size X Y	Weft to light axis direction of observation					Direction of light axis parallel observation				
2H 2H	19.35	19.08	18.86	19.08	18.78	18.52	18.39	18.06	17.75	17.49
3H	17.32	16.96	16.69	17.15	16.71	16.37	16.63	16.11	15.67	15.92
4H	15.52	15.11	14.84	15.41	14.90	14.54	15.05	14.41	13.91	14.51
6H	13.97	13.55	13.27	13.92	13.37	13.00	13.67	12.96	12.43	13.27
8H	12.64	12.23	11.96	12.63	12.08	11.71	12.48	11.74	11.19	12.19
12H	11.52	11.11	10.85	11.54	10.99	10.62	11.46	10.70	10.16	11.26
4H 2H	10.56	10.16	9.92	10.60	10.06	9.71	10.57	9.81	9.28	10.44
3H	9.74	9.35	9.12	9.79	9.26	8.93	9.81	9.05	8.54	9.72
4H	9.03	8.66	8.44	9.09	8.58	8.26	9.14	8.40	7.90	9.10
6H	8.41	8.06	7.85	8.48	7.99	7.68	8.55	7.83	7.35	8.54
8H	7.87	7.54	7.34	7.95	7.48	7.18	8.03	7.33	6.87	8.05
12H	7.40	7.08	6.89	7.48	7.02	6.75	7.57	6.89	6.45	7.61
8H 4H	6.99	6.68	6.50	7.06	6.63	6.36	7.17	6.51	6.09	7.21
6H	6.62	6.32	6.15	6.70	6.28	6.02	6.80	6.17	5.76	6.86
8H	6.29	6.01	5.84	6.37	5.96	5.72	6.48	5.86	5.47	6.54
12H	6.00	5.72	5.57	6.07	5.68	5.45	6.18	5.59	5.21	6.25
12H 4H	5.73	5.47	5.32	5.80	5.43	5.21	5.91	5.34	4.98	5.98
6H	5.49	5.24	5.10	5.56	5.20	4.99	5.67	5.12	4.78	5.74

C Range: 0 - 360 Deg  
 C Interval: 45.0 Deg  
 Test Speed: High  
 Temperature:  
 Operators:  
 Test Date: 2019/11/29 9:45:36

G Range: 0 - 90 Deg  
 G Interval: 1.0 Deg  
 Test System: Huipu CPM-1800B Goniophotometer  
 Humidity:  
 Test Distance: 5.95 m  
 Remarks:

Report No.:

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## ZONAL LUMINOUS FLUX TABLE

[illegible]

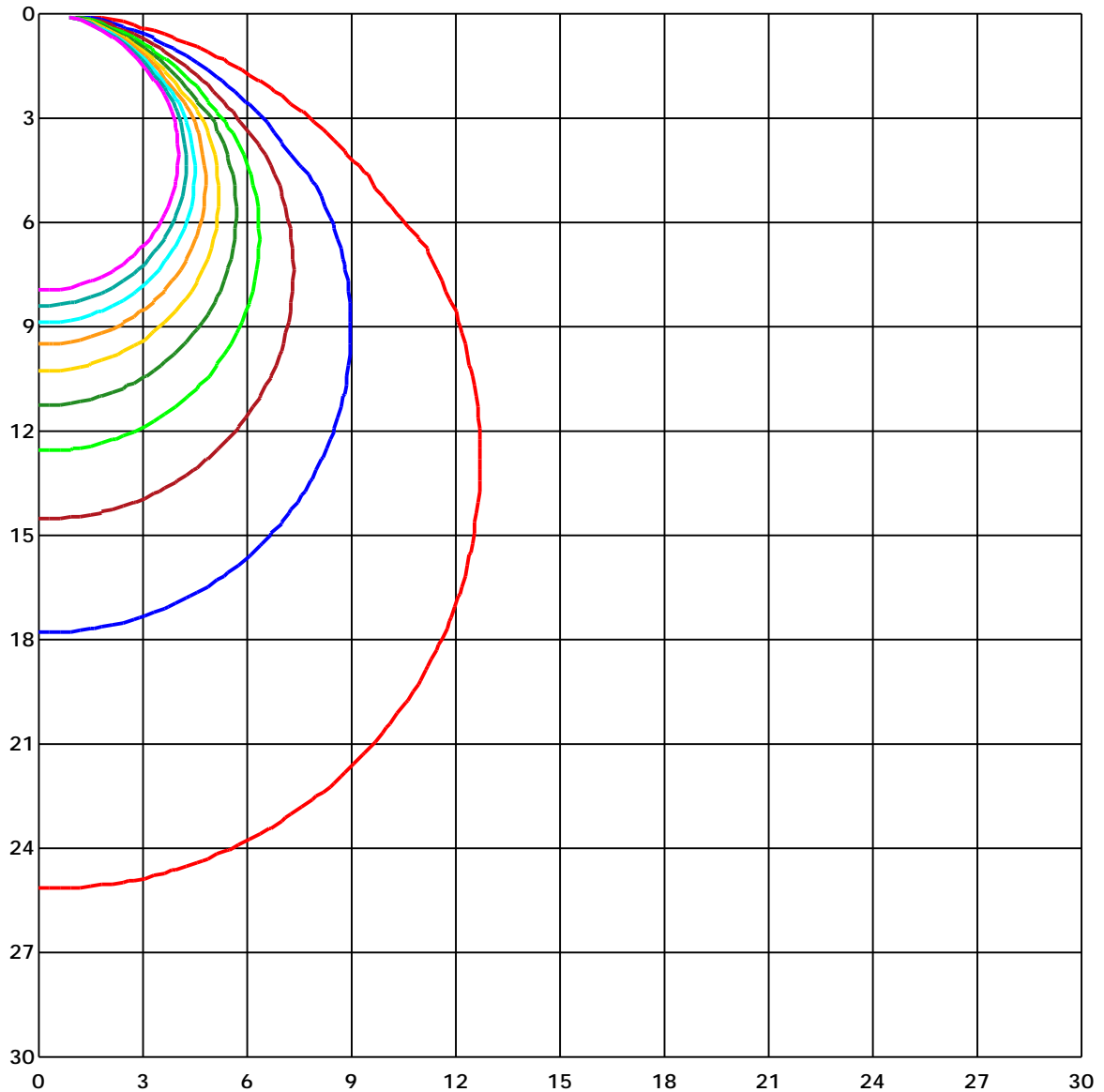
C Range: 0 - 360 Deg  
C Interval: 45.0 Deg  
Test Speed: High  
Temperature:  
Operators:  
Test Date: 2019/11/29 9:45:36

G Range: 0 - 90 Deg  
G Interval: 1.0 Deg  
Test System: Huipu CPM-1800B Goniophotometer  
Humidity:  
Test Distance: 5.95 m  
Remarks:

Report No.:

Test Time: 2019/11/29 9:45:36

## SPACE ISOLX DIAGRAM



Unit of illumination:lx

18.538  
16.684  
14.831  
12.977  
11.123

9.269  
7.415  
5.561  
3.708  
1.854

C Range: 0 - 360 Deg  
C Interval: 45.0 Deg  
Test Speed: High  
Temperature:  
Operators:  
Test Date: 2019/11/29 9:45:36

G Range: 0 - 90 Deg  
G Interval: 1.0 Deg  
Test System: Huipu CPM-1800B Goniophotometer  
Humidity:  
Test Distance: 5.95 m  
Remarks:

Report No.:

Test Time: 2019/11/29 9:45:36

## LUMINOUS DISTRIBUTION INTENSITY DATA

GammaC	C0	C45	C90	C135	C180	C225	C270	C315	C360	
G0	1171.82	1175.36	1178.55	1171.12	1163.68	1181.38	1187.4	1189.52	1185.63	
G1	1173.59	1174.66	1177.84	1169.34	1162.62	1180.32	1188.11	1189.17	1187.4	
G2	1173.59	1172.18	1177.84	1167.57	1160.85	1178.9	1188.11	1188.82	1189.17	
G3	1174.3	1171.12	1176.43	1164.03	1158.37	1178.2	1188.11	1188.82	1189.17	
G4	1173.59	1170.05	1174.3	1161.56	1156.95	1176.07	1187.75	1187.75	1188.82	
G5	1173.59	1167.57	1173.24	1159.43	1154.48	1174.66	1187.05	1186.34	1188.11	
G6	1172.53	1165.8	1171.12	1154.12	1152.71	1171.12	1185.63	1185.28	1187.4	
G7	1171.12	1163.68	1169.7	1151.29	1148.81	1166.87	1183.86	1182.44	1186.34	
G8	1169.34	1160.49	1166.16	1142.79	1143.86	1165.1	1182.09	1181.38	1183.86	
G9	1166.87	1157.31	1162.26	1135.0	1141.38	1160.49	1179.26	1178.2	1182.44	
G10	1163.68	1155.89	1160.49	1132.17	1135.71	1155.18	1177.13	1175.01	1179.26	
G11	1161.91	1152.35	1155.18	1126.51	1132.53	1153.41	1173.59	1172.18	1178.2	
G12	1158.37	1144.56	1152.35	1121.91	1125.8	1145.98	1168.64	1167.57	1174.66	
G13	1155.89	1143.86	1147.04	1115.89	1119.07	1139.25	1165.45	1165.1	1169.7	
G14	1150.94	1136.42	1143.86	1106.68	1114.83	1135.71	1160.14	1159.08	1167.57	
G15	1144.92	1132.53	1137.13	1101.73	1107.04	1128.99	1153.41	1156.25	1162.26	
G16	1142.44	1125.45	1130.05	1096.06	1103.14	1119.78	1150.23	1149.87	1159.43	
G17	1136.07	1118.37	1126.51	1088.63	1095.0	1115.18	1143.86	1143.5	1152.0	
G18	1132.88	1114.47	1118.72	1079.78	1090.4	1107.39	1136.42	1139.25	1145.98	
G19	1125.8	1107.04	1110.58	1069.16	1081.55	1097.48	1133.59	1131.82	1142.08	
G20	1122.26	1101.37	1105.97	1062.78	1071.28	1092.17	1125.8	1122.97	1134.3	
G21	1114.47	1092.88	1097.12	1058.89	1065.97	1082.25	1116.95	1118.01	1130.4	
G22	1105.97	1086.86	1087.21	1048.27	1055.7	1075.88	1112.7	1109.16	1121.91	
G23	1101.73	1077.3	1081.9	1042.6	1050.04	1064.91	1103.14	1098.54	1113.06	
G24	1091.81	1066.68	1070.93	1030.92	1038.36	1060.31	1098.54	1093.58	1108.1	
G25	1086.86	1061.37	1059.95	1018.18	1025.61	1047.91	1086.5	1082.25	1098.19	
G26	1076.24	1051.1	1053.93	1005.43	1019.59	1035.88	1075.88	1070.93	1092.88	
G27	1065.62	1044.37	1042.25	999.06	1006.14	1029.51	1070.93	1065.62	1082.25	
G28	1060.31	1031.98	1030.21	985.25	991.98	1016.05	1058.54	1052.87	1076.24	
G29	1048.27	1019.95	1022.78	977.82	984.54	1010.03	1052.16	1040.48	1065.26	
G30	1042.6	1012.16	1009.33	964.01	969.32	995.16	1038.71	1033.75	1052.87	
G31	1030.57	999.77	1001.89	956.22	950.56	980.3	1020.65	1021.01	1046.14	
G32	1017.47	991.27	987.38	941.0	948.43	972.86	1015.34	1013.93	1033.05	
G33	1010.74	977.46	970.03	925.07	935.33	956.93	1003.66	999.06	1019.59	
G34	997.29	962.95	961.18	916.57	919.05	949.14	996.58	984.19	1012.87	
G35	983.13	955.87	944.89	899.58	911.61	933.56	973.57	976.05	997.64	
G36	975.34	938.87	937.81	890.02	895.68	924.01	950.91	959.76	982.42	

C Range: 0 - 360 Deg

C Interval: 45.0 Deg

Test Speed: High

Temperature:

Operators:

Test Date: 2019/11/29 9:45:36

G Range: 0 - 90 Deg

G Interval: 1.0 Deg

Test System: Huipu CPM-1800B Goniophotometer

Humidity:

Test Distance: 5.95 m

Remarks:

Report No.:

Test Time: 2019/11/29 9:45:36

## LUMINOUS DISTRIBUTION INTENSITY DATA(Continue 1)

Gamma/C	C0	C45	C90	C135	C180	C225	C270	C315	C360	
G37	1171.82	1175.36	1178.55	1171.12	1163.68	1181.38	1187.4	1189.52	1185.63	
G38	1173.59	1174.66	1177.84	1169.34	1162.62	1180.32	1188.11	1189.17	1187.4	
G39	1173.59	1172.18	1177.84	1167.57	1160.85	1178.9	1188.11	1188.82	1189.17	
G40	1174.3	1171.12	1176.43	1164.03	1158.37	1178.2	1188.11	1188.82	1189.17	
G41	1173.59	1170.05	1174.3	1161.56	1156.95	1176.07	1187.75	1187.75	1188.82	
G42	1173.59	1167.57	1173.24	1159.43	1154.48	1174.66	1187.05	1186.34	1188.11	
G43	1172.53	1165.8	1171.12	1154.12	1152.71	1171.12	1185.63	1185.28	1187.4	
G44	1171.12	1163.68	1169.7	1151.29	1148.81	1166.87	1183.86	1182.44	1186.34	
G45	1169.34	1160.49	1166.16	1142.79	1143.86	1165.1	1182.09	1181.38	1183.86	
G46	1166.87	1157.31	1162.26	1135.0	1141.38	1160.49	1179.26	1178.2	1182.44	
G47	1163.68	1155.89	1160.49	1132.17	1135.71	1155.18	1177.13	1175.01	1179.26	
G48	1161.91	1152.35	1155.18	1126.51	1132.53	1153.41	1173.59	1172.18	1178.2	
G49	1158.37	1144.56	1152.35	1121.91	1125.8	1145.98	1168.64	1167.57	1174.66	
G50	1155.89	1143.86	1147.04	1115.89	1119.07	1139.25	1165.45	1165.1	1169.7	
G51	1150.94	1136.42	1143.86	1106.68	1114.83	1135.71	1160.14	1159.08	1167.57	
G52	1144.92	1132.53	1137.13	1101.73	1107.04	1128.99	1153.41	1156.25	1162.26	
G53	1142.44	1125.45	1130.05	1096.06	1103.14	1119.78	1150.23	1149.87	1159.43	
G54	1136.07	1118.37	1126.51	1088.63	1095.0	1115.18	1143.86	1143.5	1152.0	
G55	1132.88	1114.47	1118.72	1079.78	1090.4	1107.39	1136.42	1139.25	1145.98	
G56	1125.8	1107.04	1110.58	1069.16	1081.55	1097.48	1133.59	1131.82	1142.08	
G57	1122.26	1101.37	1105.97	1062.78	1071.28	1092.17	1125.8	1122.97	1134.3	
G58	1114.47	1092.88	1097.12	1058.89	1065.97	1082.25	1116.95	1118.01	1130.4	
G59	1105.97	1086.86	1087.21	1048.27	1055.7	1075.88	1112.7	1109.16	1121.91	
G60	1101.73	1077.3	1081.9	1042.6	1050.04	1064.91	1103.14	1098.54	1113.06	
G61	1091.81	1066.68	1070.93	1030.92	1038.36	1060.31	1098.54	1093.58	1108.1	
G62	1086.86	1061.37	1059.95	1018.18	1025.61	1047.91	1086.5	1082.25	1098.19	
G63	1076.24	1051.1	1053.93	1005.43	1019.59	1035.88	1075.88	1070.93	1092.88	
G64	1065.62	1044.37	1042.25	999.06	1006.14	1029.51	1070.93	1065.62	1082.25	
G65	1060.31	1031.98	1030.21	985.25	991.98	1016.05	1058.54	1052.87	1076.24	
G66	1048.27	1019.95	1022.78	977.82	984.54	1010.03	1052.16	1040.48	1065.26	
G67	1042.6	1012.16	1009.33	964.01	969.32	995.16	1038.71	1033.75	1052.87	
G68	1030.57	999.77	1001.89	956.22	950.56	980.3	1020.65	1021.01	1046.14	
G69	1017.47	991.27	987.38	941.0	948.43	972.86	1015.34	1013.93	1033.05	
G70	1010.74	977.46	970.03	925.07	935.33	956.93	1003.66	999.06	1019.59	
G71	997.29	962.95	961.18	916.57	919.05	949.14	996.58	984.19	1012.87	
G72	983.13	955.87	944.89	899.58	911.61	933.56	973.57	976.05	997.64	
G73	975.34	938.87	937.81	890.02	895.68	924.01	950.91	959.76	982.42	

C Range: 0 - 360 Deg

C Interval: 45.0 Deg

Test Speed: High

Temperature:

Operators:

Test Date: 2019/11/29 9:45:36

G Range: 0 - 90 Deg

G Interval: 1.0 Deg

Test System: Huipu CPM-1800B Goniophotometer

Humidity:

Test Distance: 5.95 m

Remarks:

Report No.:

Test Time: 2019/11/29 9:45:36

## LUMINOUS DISTRIBUTION INTENSITY DATA(Continue 2)

[illegible]

C Range: 0 - 360 Deg

C Interval: 45.0 Deg

Test Speed: High

Temperature:

### Operators:

Test Date: 2019/11/29 9:45:36

G Range: 0 - 90 Deg

G Interval: 1.0 Deg

Test System: Huipu CPM-1800B Goniophotometer

**Humidity:**

Test Distance: 5.95 m

Remarks: