

LUMINAIRE PHOTOMETRIC TEST REPORT

Luminaire Property

Manufacturer: rayhil	Voltage(V): 48.00 V
Luminaire Type: Que10-6-40-45-BK	Current(A): 0.2060 A
Lamp Type:	Power(W): 9.89 W
Luminous Width: 12 mm	Power Factor: 1.0000
Luminous Length: 300 mm	Lamp Luminous Flux: 388.23
Luminous Height: 8 mm	

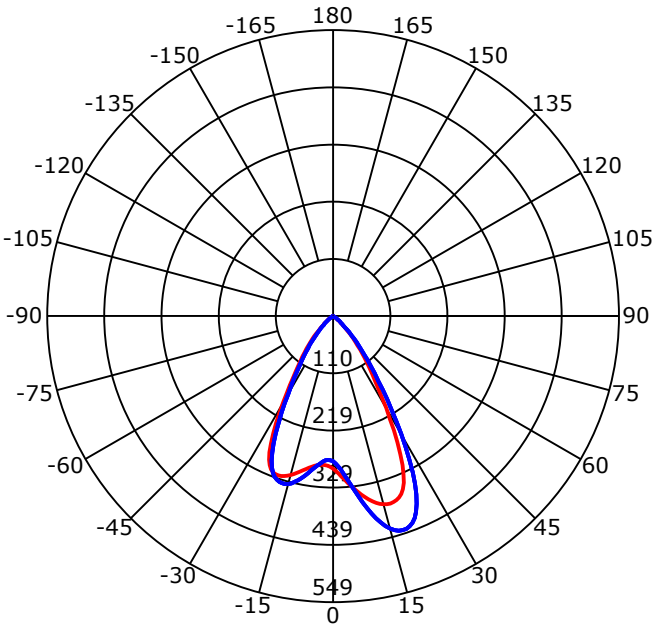
Photometric Results

CIE Class: Direct	Max. Intensity: 438.81 cd
Luminaire Luminous Flux: 388.2288 lm	Max.Intensity Angle: C=60 Gamma=20
Downward Ratio: 100.00%	Upward Ratio: 0.00%
Luminaire Efficacy Rating(LER): 39.25 lm/W	Efficacy: 100.00%
Beam Angle(50%) C0-180,C90-270: 60.9,59.5	Center Intensity: 292.73 cd
Field Angle(10%) C0-180,C90-270: 90.3,88.1	Effective Luminous Flux: 367.17 lm
S/MH C0-180,C90-270: 1.109,1.155	ERP(φuse)(120deg): 388.05 lm

Picture of Luminaire



Luminous Intensity Distribution Curve



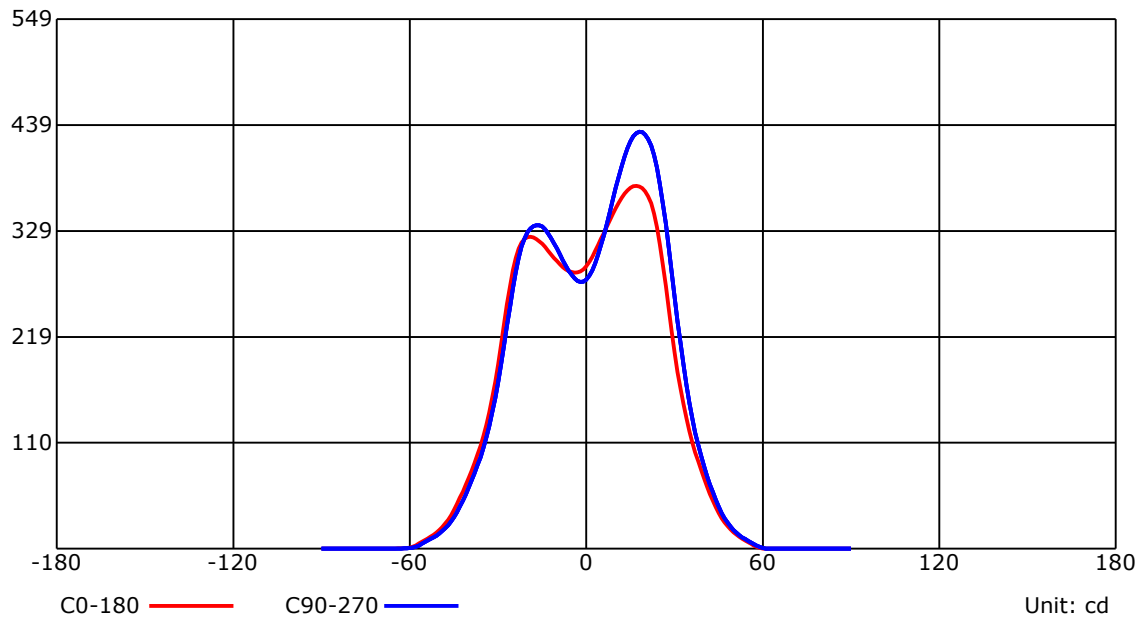
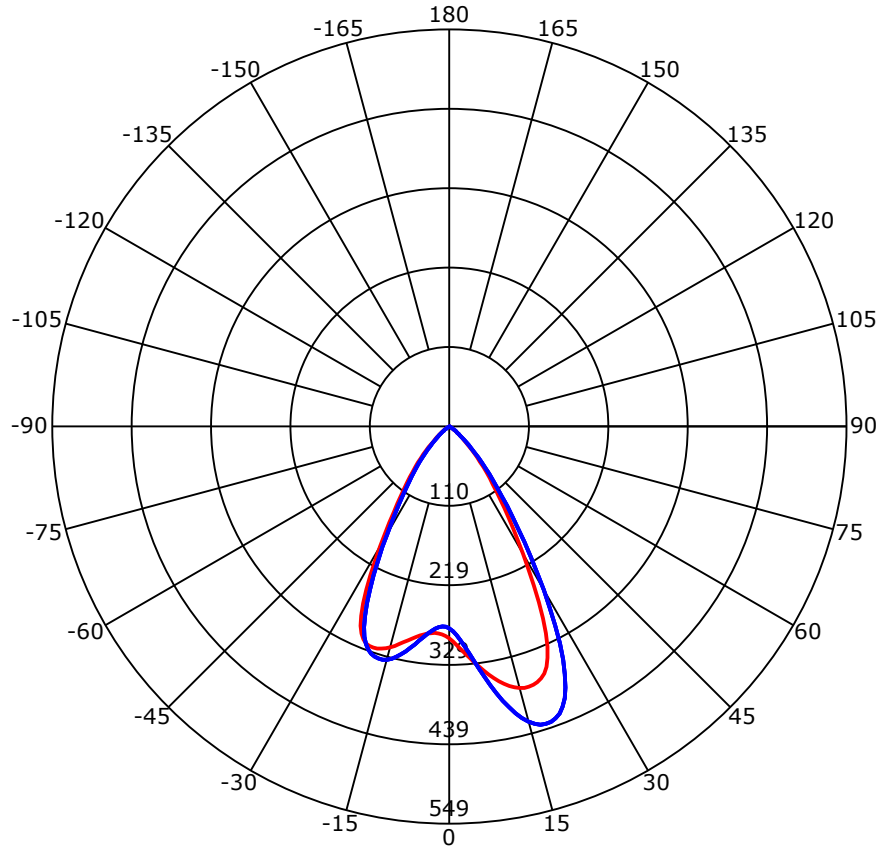
Beam Angle(50%) C0-180,C90-270: 60.9 deg,59.5 deg

C0-180 — C90-270 —

Report No.:

Test Time: 2022-06-28 19:09:30

Luminous Intensity Distribution Curve



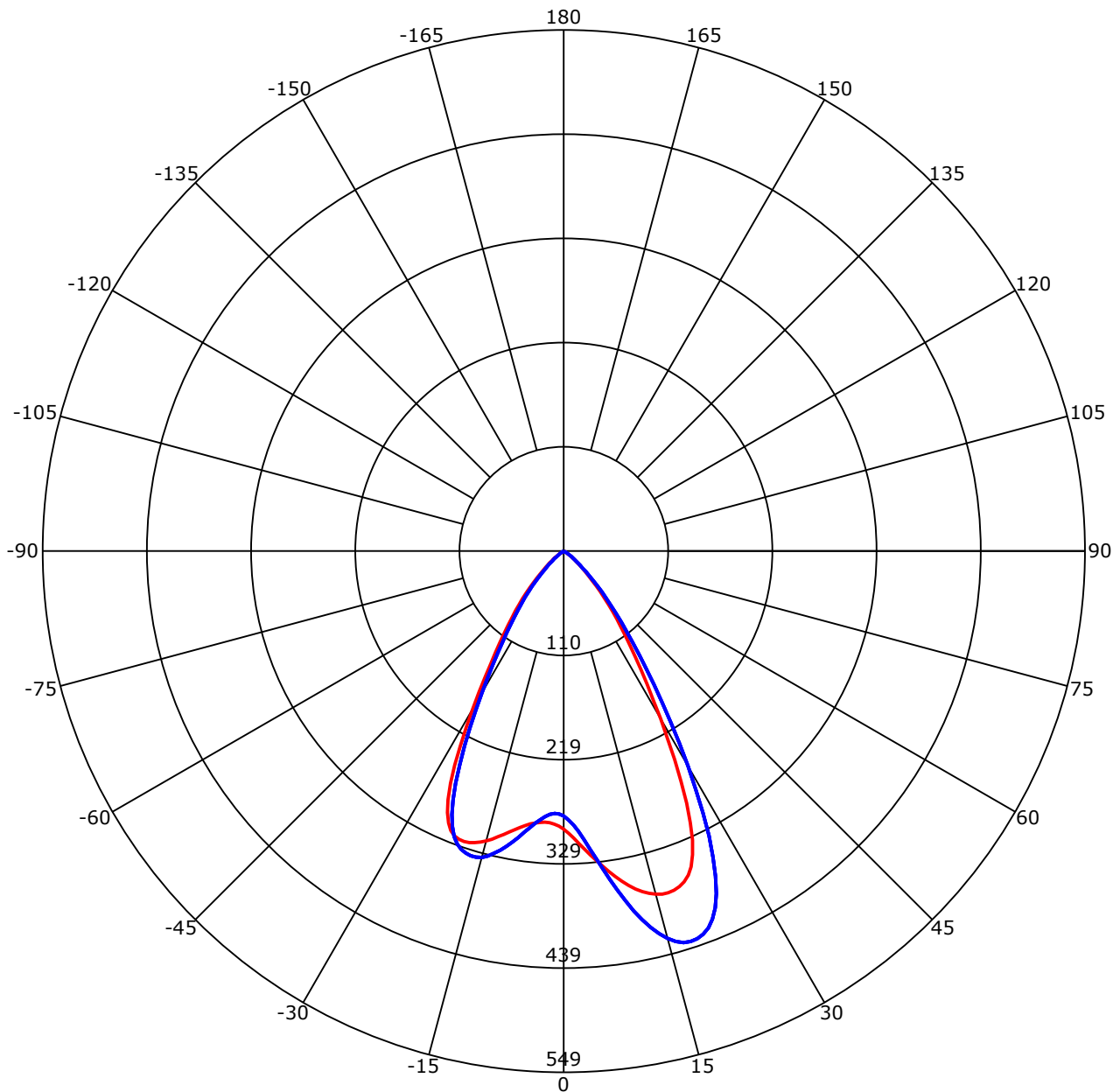
C Range: 0 - 360 Deg
C Interval: 30.0 Deg
Test Speed: High
Temperature:
Operators:
Test Date: 2022-06-28 19:09:30

G Range: 0 - 90 Deg
G Interval: 1.0 Deg
Test System: Huipu CPM-1800B Goniophotometer
Humidity:
Test Distance: 8.86 m
Remarks:

Report No.:

Test Time: 2022-06-28 19:09:30

Luminous Intensity Distribution Curve



C0-180 — C90-270

Unit: cd/klm

C Range: 0 - 360 Deg

C Interval: 30.0 Deg

Test Speed: High

Temperature:

Operators:

Test Date: 2022-06-28 19:09:30

G Range: 0 - 90 Deg

G Interval: 1.0 Deg

Test System: Huipu CPM-1800B Goniophotometer

Humidity:

Test Distance: 8.86 m

Remarks:

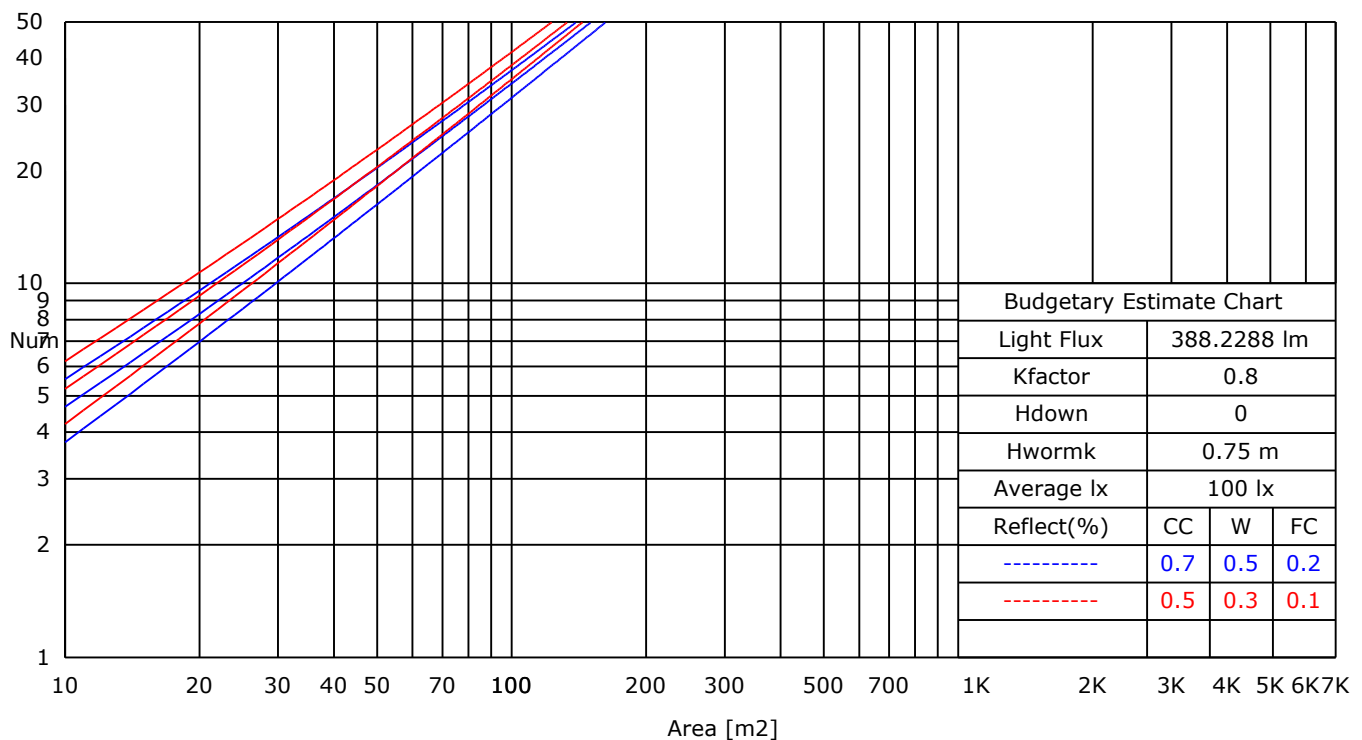
Report No.:

Test Time: 2022-06-28 19:09:30

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	1.09	1.08	1.07	1.08	1.06	1.05	1.04	1.02	1.00	0.98	0.97	0.95	0.92	0.90	0.88	0.83
2	1.04	1.03	1.02	1.03	1.01	1.00	0.99	0.97	0.95	0.95	0.92	0.90	0.89	0.86	0.84	0.79
3	1.00	0.98	0.97	0.98	0.96	0.95	0.95	0.93	0.91	0.91	0.88	0.86	0.86	0.83	0.80	0.76
4	0.95	0.94	0.93	0.94	0.92	0.91	0.91	0.89	0.87	0.88	0.85	0.82	0.83	0.80	0.77	0.73
5	0.91	0.90	0.89	0.90	0.88	0.87	0.88	0.85	0.83	0.84	0.81	0.79	0.81	0.77	0.74	0.70
6	0.88	0.86	0.86	0.87	0.85	0.84	0.84	0.81	0.80	0.81	0.78	0.75	0.78	0.74	0.71	0.67
7	0.84	0.83	0.82	0.83	0.82	0.80	0.81	0.78	0.76	0.78	0.75	0.72	0.75	0.71	0.68	0.65
8	0.81	0.80	0.79	0.80	0.79	0.77	0.78	0.75	0.74	0.76	0.72	0.70	0.73	0.69	0.66	0.62
9	0.79	0.77	0.76	0.78	0.76	0.75	0.75	0.73	0.71	0.73	0.70	0.67	0.71	0.66	0.63	0.60
10	0.76	0.75	0.74	0.75	0.73	0.72	0.73	0.70	0.69	0.71	0.67	0.65	0.68	0.64	0.61	0.58

LUMINAIRE BUDGETARY ESTIMATE DIAGRAM



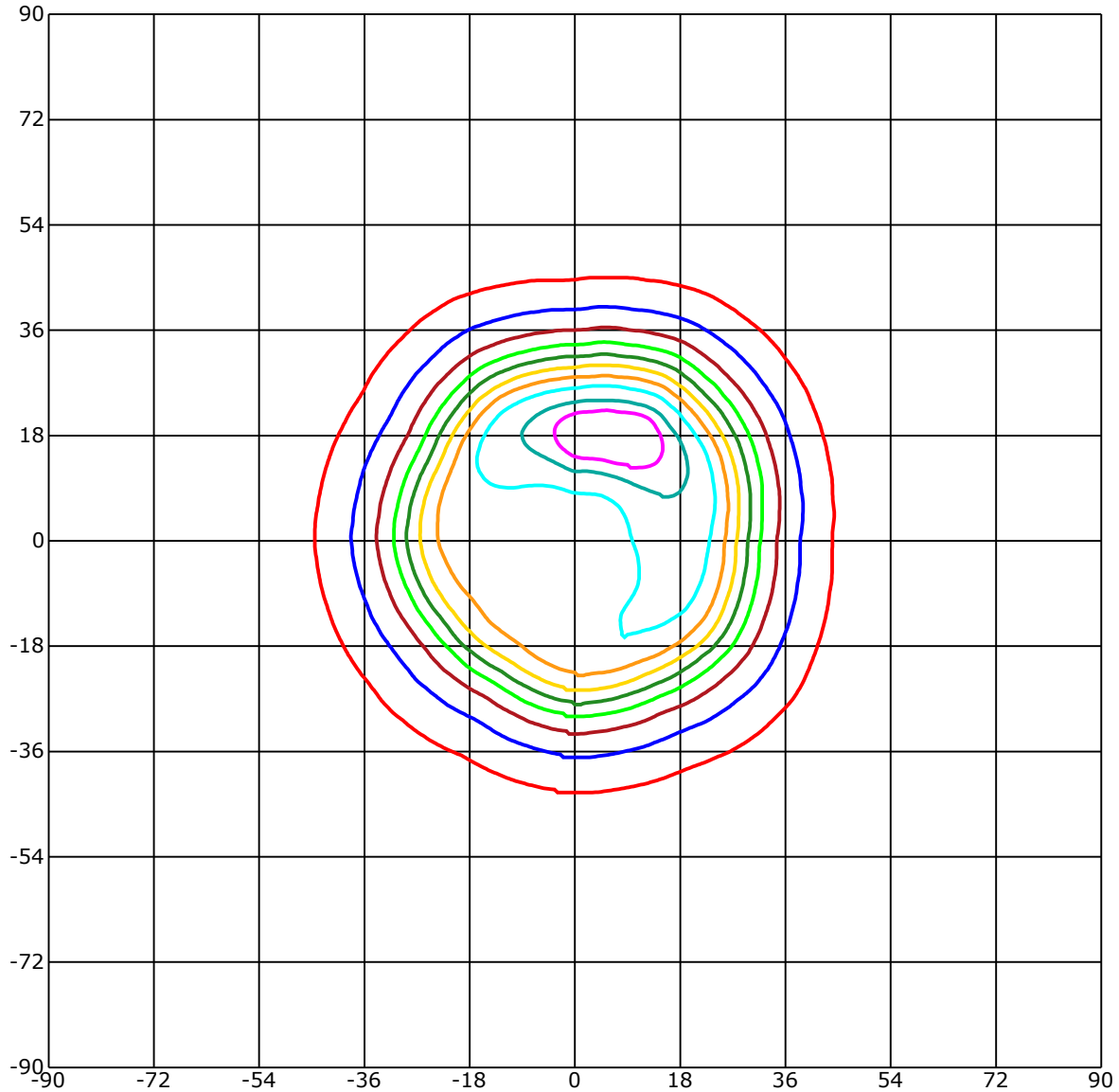
C Range: 0 - 360 Deg
C Interval: 30.0 Deg
Test Speed: High
Temperature:
Operators:
Test Date: 2022-06-28 19:09:30

G Range: 0 - 90 Deg
G Interval: 1.0 Deg
Test System: Huipu CPM-1800B Goniophotometer
Humidity:
Test Distance: 8.86 m
Remarks:

Report No.:

Test Time: 2022-06-28 19:09:30

ISOCANDELA DIAGRAM (RECTANGULAR)



Unit of intensity:cd Imax(100%): 438.813 cd

416.872(95%Imax)	219.406(50%Imax)
394.932(90%Imax)	175.525(40%Imax)
351.05(80%Imax)	131.644(30%Imax)
307.169(70%Imax)	87.763(20%Imax)
263.288(60%Imax)	43.881(10%Imax)

C Range: 0 - 360 Deg

C Interval: 30.0 Deg

Test Speed: High

Temperature:

Operators:

Test Date: 2022-06-28 19:09:30

G Range: 0 - 90 Deg

G Interval: 1.0 Deg

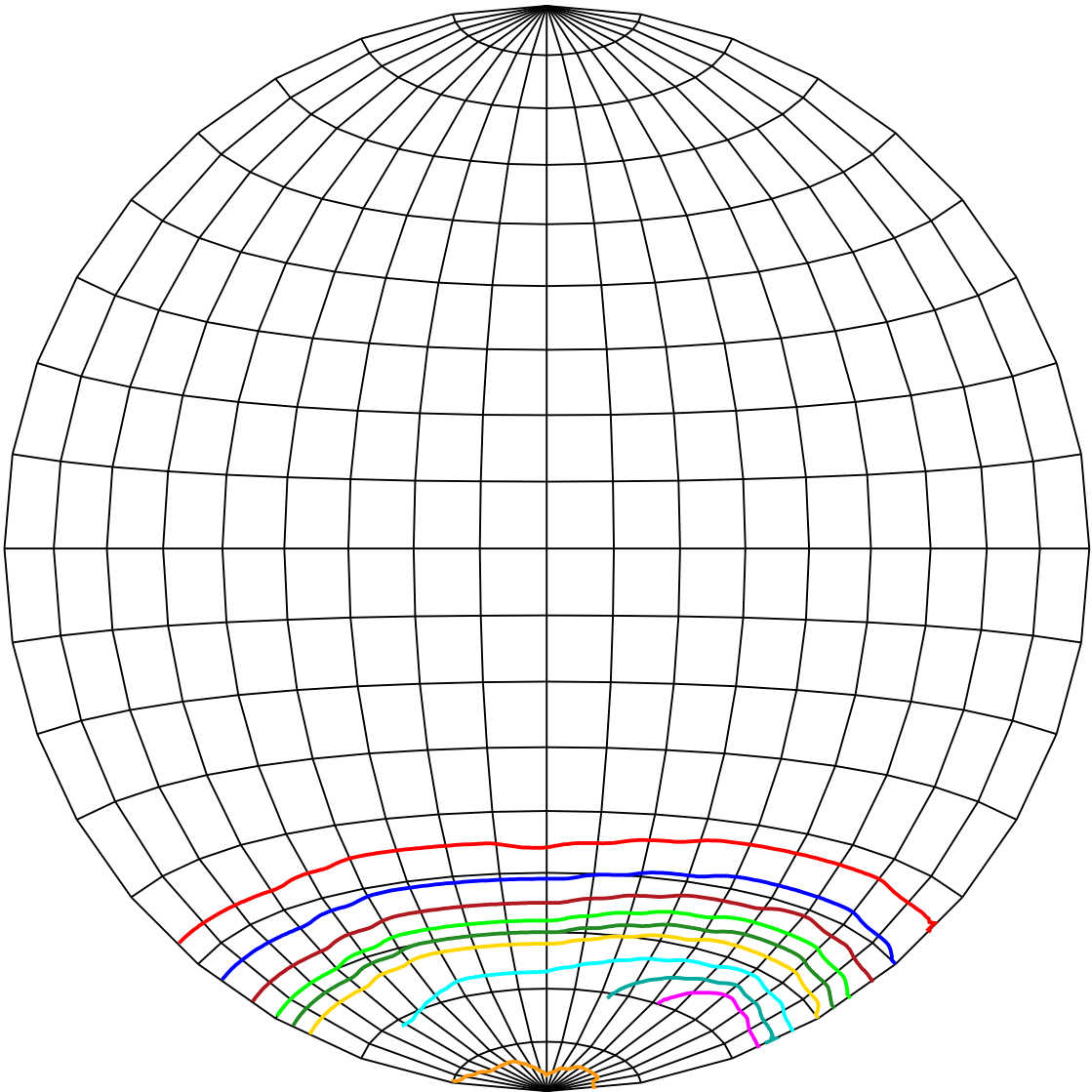
Test System: Huipu CPM-1800B Goniophotometer

Humidity:

Test Distance: 8.86 m

Remarks:

ISOCANDELA DIAGRAM (SPHERE)



Unit of intensity:cd I_{max}(100%): 438.813 cd

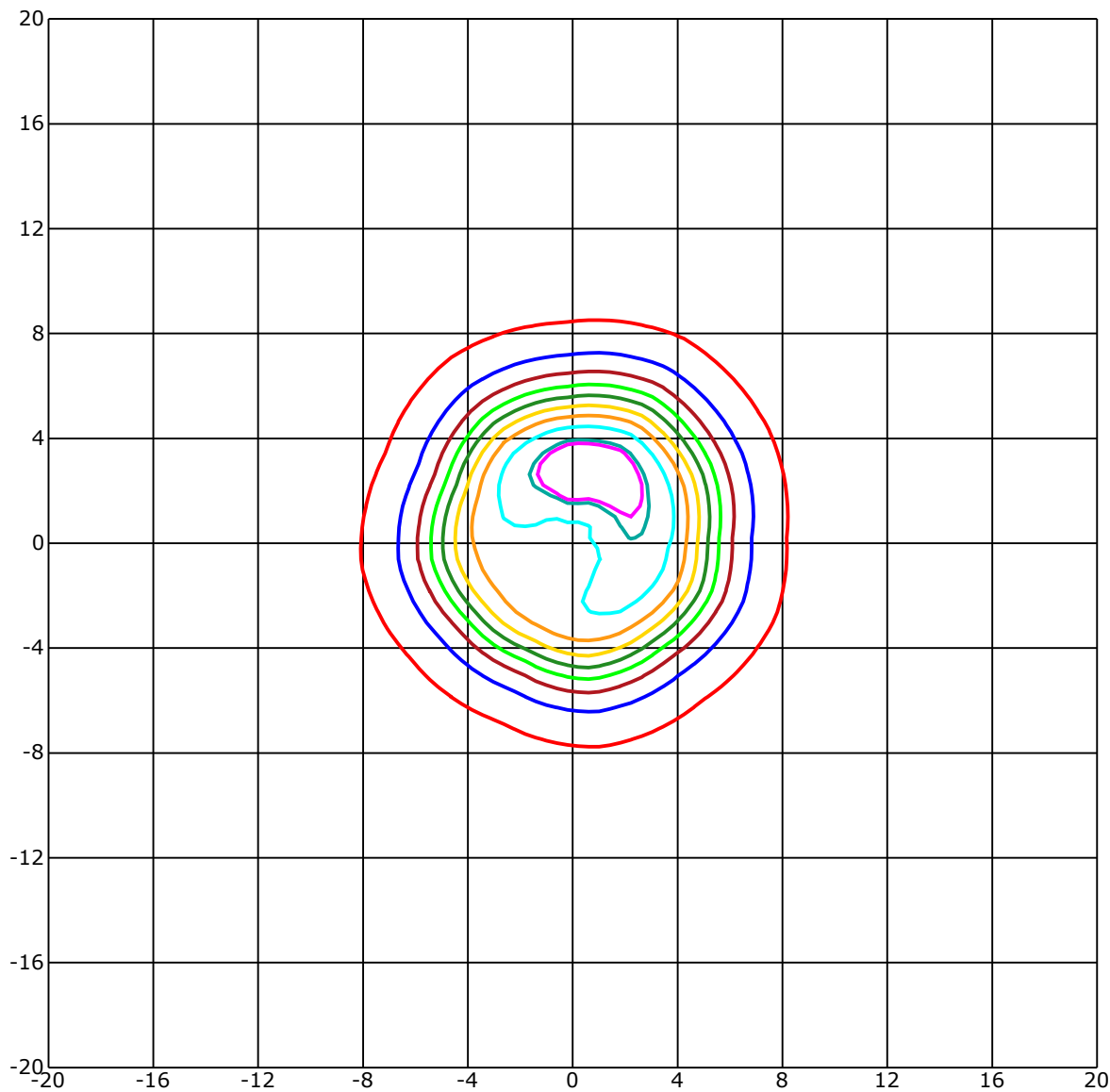
- | | |
|-------------------------------|-------------------------------|
| 416.872(95%I _{max}) | 219.406(50%I _{max}) |
| 394.932(90%I _{max}) | 175.525(40%I _{max}) |
| 351.05(80%I _{max}) | 131.644(30%I _{max}) |
| 307.169(70%I _{max}) | 87.763(20%I _{max}) |
| 263.288(60%I _{max}) | 43.881(10%I _{max}) |



Report No.:

Test Time: 2022-06-28 19:09:30

ISOLX DIAGRAM



Unit of illumination:lx Height of plane:10.0(m)/32.81(ft)

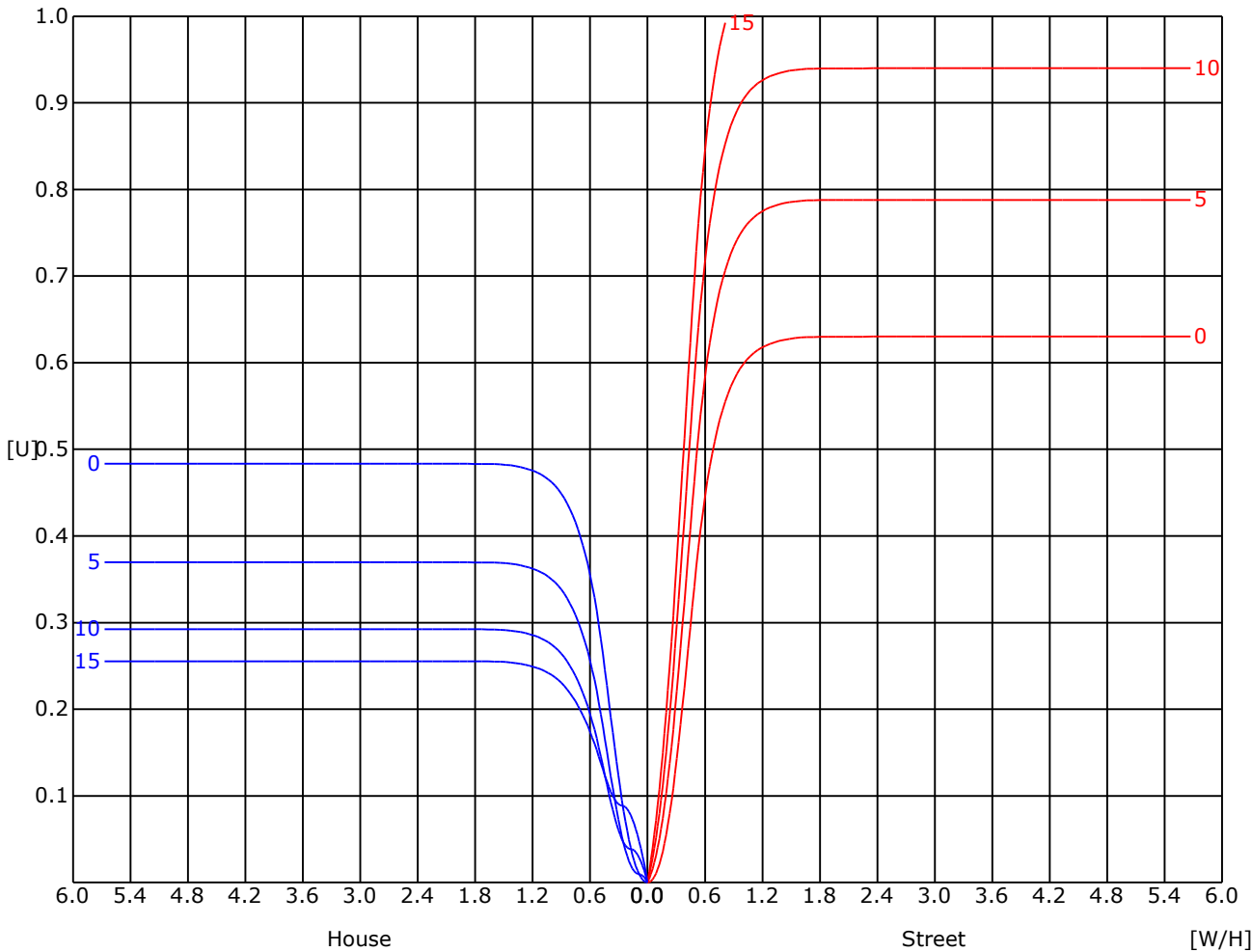
- | | |
|---------------|---------------|
| 3.498(1%Emax) | 1.901(0%Emax) |
| 3.422(1%Emax) | 1.521(0%Emax) |
| 3.042(1%Emax) | 1.141(0%Emax) |
| 2.662(1%Emax) | 0.761(0%Emax) |
| 2.282(1%Emax) | 0.38(0%Emax) |

C Range: 0 - 360 Deg
C Interval: 30.0 Deg
Test Speed: High
Temperature:
Operators:
Test Date: 2022-06-28 19:09:30

G Range: 0 - 90 Deg
G Interval: 1.0 Deg
Test System: Huipu CPM-1800B Goniophotometer
Humidity:
Test Distance: 8.86 m
Remarks:

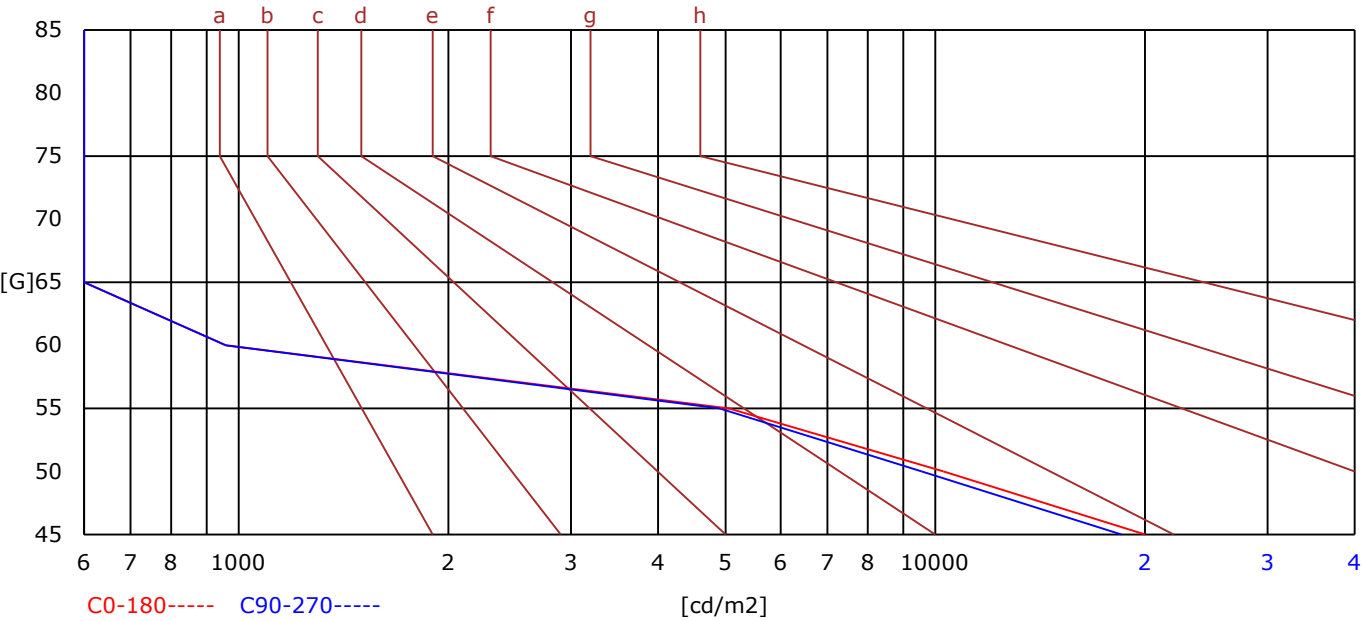


UTILIZATION FACTOR DIAGRAM (ROAD)

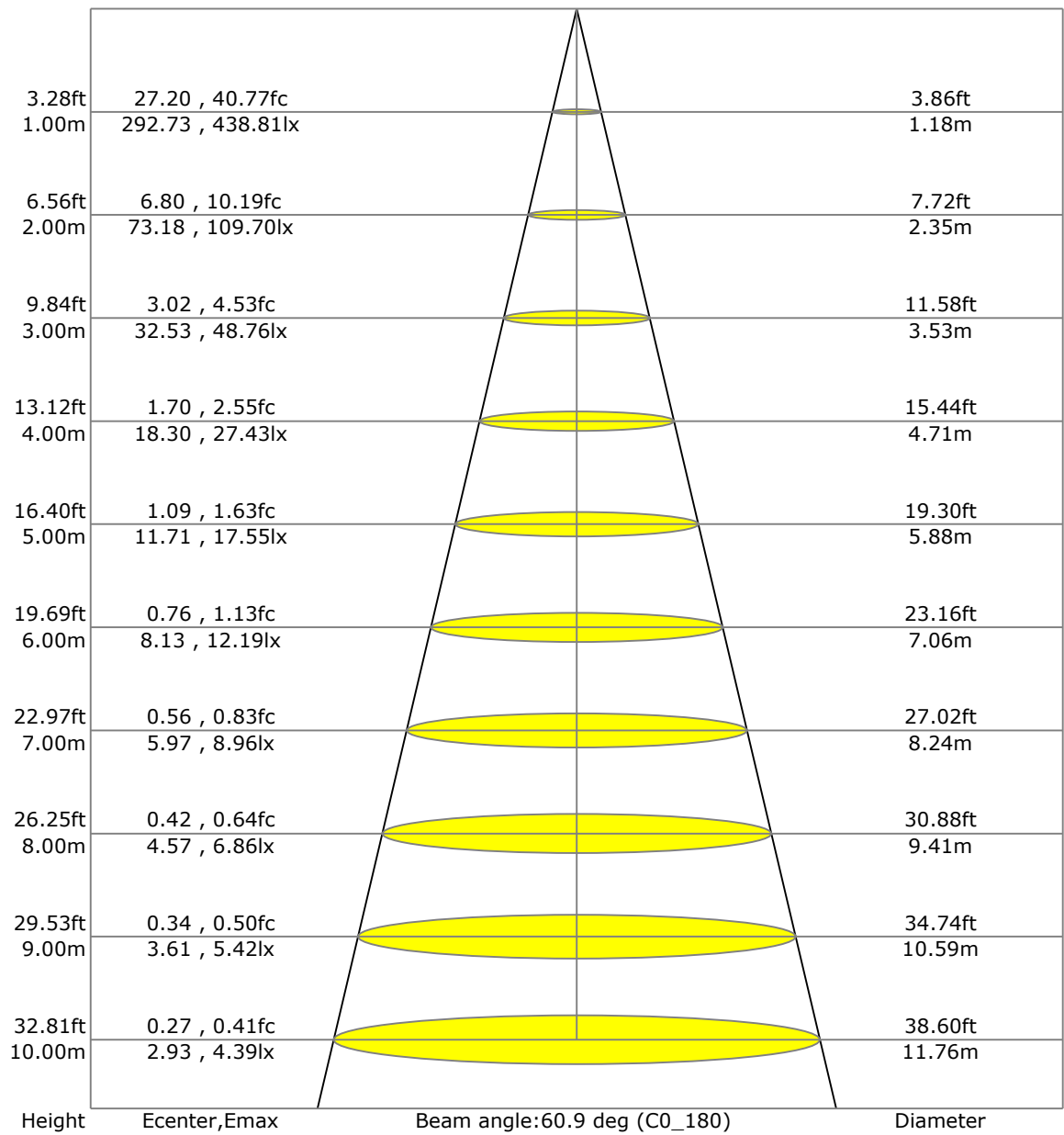


BRIGHT LIMIT DIAGRAM

C/G	45	50	55	60	65	70	75	80	85
C0	20014	10279	5056	959	0	0	0	0	0
C90	18503	9566	4904	959	155	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



LX-DISTANCE DIAGRAM



Report No.:

Test Time: 2022-06-28 19:09:30

UGR(Unified Glare Rating) TABLE

RHOCC	70	70	50	50	30	70	70	50	50	30
RHOW	50	30	50	30	30	50	30	50	30	30
RHOF	20	20	20	20	20	20	20	20	20	20
Room Size X Y	Viewed Endwise					Viewed Crosswise				
2H 2H	20.94	20.99	21.14	21.18	21.42	21.67	21.72	21.87	21.91	22.15
3H	20.91	20.96	21.11	21.15	21.40	21.64	21.69	21.85	21.88	22.13
4H	20.89	20.94	21.10	21.14	21.39	21.62	21.67	21.83	21.87	22.12
6H	20.87	20.92	21.09	21.12	21.37	21.61	21.65	21.82	21.86	22.11
8H	20.86	20.91	21.08	21.12	21.37	21.60	21.64	21.81	21.85	22.10
12H	20.85	20.90	21.07	21.11	21.36	21.59	21.63	21.81	21.84	22.09
4H 2H	20.89	20.94	21.10	21.14	21.39	21.62	21.67	21.83	21.87	22.12
3H	20.85	20.90	21.07	21.11	21.36	21.59	21.63	21.81	21.84	22.09
4H	20.83	20.88	21.06	21.09	21.35	21.56	21.61	21.79	21.82	22.08
6H	20.81	20.85	21.05	21.07	21.34	21.54	21.59	21.78	21.81	22.07
8H	20.79	20.84	21.04	21.07	21.33	21.53	21.57	21.77	21.80	22.06
12H	20.78	20.82	21.03	21.06	21.32	21.51	21.56	21.76	21.79	22.06
8H 4H	20.86	20.91	21.08	21.12	21.37	21.60	21.65	21.81	21.85	22.10
6H	20.77	20.81	21.02	21.05	21.32	21.50	21.54	21.75	21.78	22.05
8H	20.75	20.79	21.01	21.03	21.31	21.48	21.52	21.74	21.77	22.04
12H	20.73	20.77	21.00	21.02	21.30	21.47	21.50	21.73	21.76	22.04
12H 4H	20.78	20.82	21.03	21.06	21.32	21.51	21.56	21.76	21.79	22.06
6H	20.75	20.79	21.01	21.03	21.31	21.48	21.52	21.74	21.77	22.04

C Range: 0 - 360 Deg

C Interval: 30.0 Deg

Test Speed: High

Temperature:

Operators:

Test Date: 2022-06-28 19:09:30

G Range: 0 - 90 Deg

G Interval: 1.0 Deg

Test System: Huipu CPM-1800B Goniophotometer

Humidity:

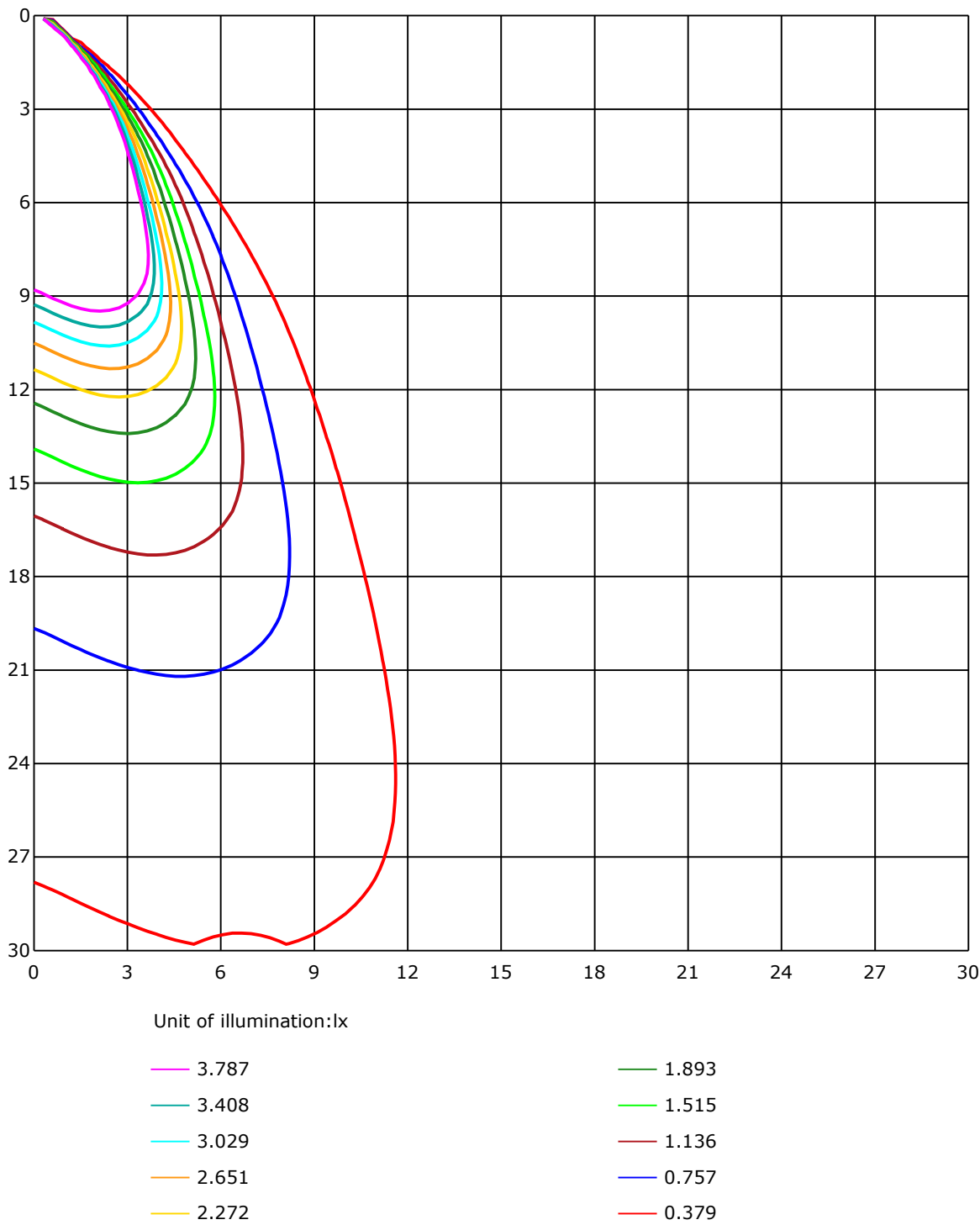
Test Distance: 8.86 m

Remarks:

G Range: 0 - 90 Deg
G Interval: 1.0 Deg
Test System: Huipu CPM-1800B Goniophotometer
Humidity:
Test Distance: 8.86 m
Remarks:

Report No.:

SPACE ISOLX DIAGRAM



Report No.:

Test Time: 2022-06-28 19:09:30

LUMINOUS DISTRIBUTION INTENSITY DATA

Gamma\C	C0	C30	C60	C90	C120	C150	C180	C210	C240	C270
G0	292.73	277.5	274.43	278.75	279.62	284.01	292.73	277.5	274.43	278.75
G1	297.12	281.11	276.63	282.83	280.32	284.48	289.43	275.22	273.57	276.71
G2	302.3	285.82	280.95	288.33	282.76	285.97	287.31	274.12	274.12	276.24
G3	308.35	291.78	286.45	295.47	286.45	288.41	286.21	274.04	275.93	277.34
G4	314.55	299.32	293.51	304.42	291.55	291.55	285.9	274.98	278.75	280.01
G5	320.98	307.48	302.46	314.31	297.59	295.16	286.52	277.03	282.28	283.7
G6	327.42	316.2	312.82	325.3	304.58	299.24	287.54	279.54	286.45	288.02
G7	333.94	325.38	323.58	336.92	312.19	303.79	289.27	282.76	291.31	293.2
G8	340.45	334.49	335.43	349.01	316.43	308.58	291.55	286.76	296.57	298.69
G9	346.73	343.59	347.28	361.41	329.46	313.84	294.45	291.08	301.75	304.74
G10	352.62	352.7	359.76	373.82	338.57	319.26	297.75	295.32	306.93	310.78
G11	358.43	361.57	372.01	385.75	347.91	324.75	301.2	299.63	311.72	316.43
G12	363.53	369.73	384.1	396.5	356.86	329.86	304.74	303.87	315.65	321.77
G13	367.85	377.27	395.4	406.39	365.26	334.57	308.58	307.72	318.87	326.4
G14	371.22	384.02	406.24	414.95	373.03	338.73	312.35	310.78	320.98	330.56
G15	373.82	389.52	415.5	421.94	379.39	342.18	315.73	313.06	322.08	333.62
G16	375.46	394.15	423.51	427.35	384.81	344.85	318.55	314.39	322.01	335.04
G17	375.93	397.6	429.86	430.65	388.89	346.1	320.83	314.47	320.59	335.11
G18	375.15	399.88	435.04	431.9	391.4	346.42	322.4	313.53	317.53	334.09
G19	373.34	400.98	437.95	431.43	392.42	345.48	323.03	311.17	312.51	331.82
G20	370.2	400.66	438.81	429.0	392.03	343.44	322.63	306.7	304.58	328.05
G21	365.34	399.09	437.56	424.53	389.99	339.12	321.06	299.24	293.9	321.77
G22	358.04	395.8	434.73	417.7	385.83	331.97	317.14	288.88	280.24	313.06
G23	346.97	390.93	430.26	407.81	379.07	321.69	310.78	275.06	263.05	301.2
G24	333.0	383.71	423.03	394.62	369.03	308.58	301.28	258.19	244.45	286.68
G25	315.25	372.87	412.91	377.43	355.92	290.61	288.56	239.11	224.27	269.8
G26	295.0	358.66	399.01	358.27	339.59	270.43	271.84	218.78	204.49	250.02
G27	272.08	341.32	382.14	336.45	320.28	249.16	252.77	199.0	184.79	230.16
G28	248.14	320.04	362.43	311.56	297.98	226.79	232.28	179.92	166.65	209.91
G29	224.82	296.96	339.67	286.37	274.04	204.96	211.32	162.57	150.17	190.68
G30	203.47	272.79	314.63	261.25	250.41	184.47	191.15	147.03	136.12	172.39
G31	183.06	248.61	288.96	235.89	227.33	166.18	172.93	133.68	123.17	155.98
G32	165.24	225.22	263.13	212.34	204.81	149.38	156.06	121.67	111.47	140.83
G33	149.54	202.84	238.01	190.28	184.24	134.78	141.14	110.61	100.95	126.86
G34	135.41	182.98	213.91	169.95	165.56	121.91	128.19	101.03	91.45	115.32
G35	122.15	164.93	192.17	151.5	148.84	110.29	116.89	92.16	82.66	104.56
G36	110.53	148.13	172.07	135.57	133.53	100.24	106.52	83.68	75.05	94.67

C Range: 0 - 360 Deg

C Interval: 30.0 Deg

Test Speed: High

Temperature:

Operators:

Test Date: 2022-06-28 19:09:30

G Range: 0 - 90 Deg

G Interval: 1.0 Deg

Test System: Huipu CPM-1800B Goniophotometer

Humidity:

Test Distance: 8.86 m

Remarks:

Report No.:

Test Time: 2022-06-28 19:09:30

LUMINOUS DISTRIBUTION INTENSITY DATA(Continue 1)

Gamma\C	C0	C30	C60	C90	C120	C150	C180	C210	C240	C270
G37	99.93	132.98	153.47	120.34	119.95	90.67	97.42	76.07	67.82	86.19
G38	90.59	119.32	136.51	107.54	107.86	82.03	88.55	68.84	61.07	78.03
G39	81.72	107.15	121.67	96.16	97.18	74.18	80.62	61.94	54.4	70.65
G40	73.16	96.08	108.64	85.49	87.53	66.41	73.32	55.34	48.12	63.35
G41	64.68	85.49	97.03	75.83	78.42	58.95	66.25	48.91	42.0	56.28
G42	56.91	76.14	86.35	66.8	69.86	51.97	59.27	42.86	36.58	49.77
G43	49.53	67.2	76.54	58.4	61.94	45.22	52.67	37.44	31.64	43.49
G44	42.7	58.8	67.12	50.63	54.24	39.01	46.08	32.5	27.32	37.68
G45	36.82	50.95	58.64	43.41	47.1	33.52	40.11	28.1	23.63	32.58
G46	31.71	43.96	50.4	37.05	40.58	28.65	34.7	24.33	20.33	28.26
G47	27.16	37.68	43.65	31.56	35.01	24.49	29.99	21.12	17.51	24.41
G48	23.24	32.42	37.52	26.93	30.07	21.04	25.9	18.21	14.99	21.12
G49	19.94	27.71	32.18	22.84	25.9	17.98	22.37	15.78	12.87	18.21
G50	17.03	23.79	30.3	19.47	22.14	15.31	19.23	13.58	10.91	15.7
G51	14.52	20.41	23.79	16.56	19.08	13.11	16.56	11.62	9.18	13.5
G52	12.25	17.35	20.41	13.97	16.41	11.07	14.29	9.89	7.61	11.62
G53	10.28	14.76	17.51	11.85	14.05	9.26	12.25	8.32	6.12	9.89
G54	8.48	12.48	14.91	9.89	12.01	7.69	10.44	6.67	4.55	8.24
G55	6.75	10.44	12.72	8.16	10.13	6.04	8.87	4.87	2.83	6.75
G56	4.95	8.56	10.68	6.52	8.4	4.4	7.14	3.06	1.33	5.1
G57	3.22	6.91	8.87	4.87	6.67	2.59	5.34	1.73	0.47	3.22
G58	1.65	5.1	7.22	3.14	4.79	1.26	3.45	0.94	0.0	1.96
G59	0.63	3.3	5.65	1.65	2.98	0.39	2.04	0.55	0.0	1.1
G60	0.08	1.73	3.77	0.71	1.73	0.0	1.18	0.39	0.0	0.71
G61	0.0	0.71	2.35	0.16	1.02	0.0	0.78	0.31	0.0	0.55
G62	0.0	0.16	1.33	0.0	0.71	0.0	0.55	0.16	0.0	0.39
G63	0.0	0.0	0.98	0.0	0.55	0.0	0.47	0.0	0.0	0.24
G64	0.0	0.0	0.63	0.0	0.39	0.0	0.31	0.0	0.0	0.08
G65	0.0	0.0	0.47	0.0	0.24	0.0	0.16	0.0	0.0	0.0
G66	0.0	0.0	0.31	0.0	0.08	0.0	0.0	0.0	0.0	0.0
G67	0.0	0.0	0.16	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G68	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G69	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G70	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G71	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G72	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G73	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

C Range: 0 - 360 Deg

C Interval: 30.0 Deg

Test Speed: High

Temperature:

Operators:

Test Date: 2022-06-28 19:09:30

G Range: 0 - 90 Deg

G Interval: 1.0 Deg

Test System: Huipu CPM-1800B Goniophotometer

Humidity:

Test Distance: 8.86 m

Remarks:

Report No.:

Test Time: 2022-06-28 19:09:30

LUMINOUS DISTRIBUTION INTENSITY DATA(Continue 2)

[illegible]

C Range: 0 - 360 Deg

C Interval: 30.0 Deg

Test Speed: High

Temperature:

Operators:

Test Date: 2022-06-28 19:09:30

G Range: 0 - 90 Deg

G Interval: 1.0 Deg

Test System: Huipu CPM-1800B Goniophotometer

Humidity:

Test Distance: 8.86 m

Remarks:

Report No.:

Test Time: 2022-06-28 19:09:30

LUMINOUS DISTRIBUTION INTENSITY DATA(Continue 3)

Gamma\C	C300	C330	C360							
G0	279.62	284.01	292.73							
G1	280.56	284.8	297.12							
G2	282.91	286.84	302.3							
G3	286.6	290.21	308.35							
G4	291.08	294.53	314.55							
G5	298.93	299.63	320.98							
G6	302.46	305.21	327.42							
G7	308.74	311.33	333.94							
G8	315.41	317.69	340.45							
G9	322.16	324.52	346.73							
G10	328.68	331.27	352.62							
G11	335.11	338.1	358.43							
G12	340.45	344.77	363.53							
G13	344.93	350.34	367.85							
G14	348.46	355.37	371.22							
G15	350.81	359.29	373.82							
G16	351.84	362.2	375.46							
G17	351.68	363.92	375.93							
G18	352.86	364.4	375.15							
G19	346.58	363.45	373.34							
G20	341.55	361.33	370.2							
G21	333.62	357.72	365.34							
G22	322.87	352.46	358.04							
G23	309.52	344.3	346.97							
G24	293.35	332.13	333.0							
G25	273.81	317.45	315.25							
G26	253.08	299.79	295.0							
G27	231.57	279.07	272.08							
G28	210.46	256.38	248.14							
G29	189.58	234.09	224.82							
G30	171.36	212.73	203.47							
G31	151.82	192.17	183.06							
G32	138.79	173.09	165.24							
G33	125.6	156.21	149.54							
G34	113.9	141.46	135.41							
G35	102.76	128.03	122.15							
G36	92.94	115.71	110.53							

C Range: 0 - 360 Deg

C Interval: 30.0 Deg

Test Speed: High

Temperature:

Operators:

Test Date: 2022-06-28 19:09:30

G Range: 0 - 90 Deg

G Interval: 1.0 Deg

Test System: Huipu CPM-1800B Goniophotometer

Humidity:

Test Distance: 8.86 m

Remarks:

Report No.:

Test Time: 2022-06-28 19:09:30

LUMINOUS DISTRIBUTION INTENSITY DATA(Continue 4)

Gamma\C	C300	C330	C360							
G37	83.92	104.64	99.93							
G38	75.75	94.98	90.59							
G39	68.06	86.04	81.72							
G40	60.92	77.71	73.16							
G41	53.85	69.94	64.68							
G42	47.34	62.41	56.91							
G43	41.13	55.19	49.53							
G44	37.21	48.43	42.7							
G45	30.61	42.08	36.82							
G46	26.38	36.5	31.71							
G47	22.61	31.56	27.16							
G48	19.39	27.32	23.24							
G49	16.72	23.63	19.94							
G50	14.37	20.41	17.03							
G51	12.25	17.66	14.52							
G52	10.36	15.15	12.25							
G53	8.63	13.03	10.28							
G54	7.06	10.99	8.48							
G55	5.49	9.26	6.75							
G56	3.69	7.54	4.95							
G57	0.94	5.73	3.22							
G58	0.94	4.0	1.65							
G59	0.24	2.35	0.63							
G60	0.0	1.33	0.08							
G61	0.0	0.78	0.0							
G62	0.0	0.55	0.0							
G63	0.0	0.39	0.0							
G64	0.0	0.31	0.0							
G65	0.0	0.08	0.0							
G66	0.0	0.0	0.0							
G67	0.0	0.0	0.0							
G68	0.0	0.0	0.0							
G69	0.0	0.0	0.0							
G70	0.0	0.0	0.0							
G71	0.0	0.0	0.0							
G72	0.0	0.0	0.0							
G73	0.0	0.0	0.0							

C Range: 0 - 360 Deg

C Interval: 30.0 Deg

Test Speed: High

Temperature:

Operators:

Test Date: 2022-06-28 19:09:30

G Range: 0 - 90 Deg

G Interval: 1.0 Deg

Test System: Huipu CPM-1800B Goniophotometer

Humidity:

Test Distance: 8.86 m

Remarks:

