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Light Blue USA-Rayhil

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Client:

LumCAT: INV-9-CCT-120-\*\*-3500K

Luminaire: LED lamp

Report No:

Ballast type:

Test No:

Voltage(V): 120.030

LampCAT:

Current(A): 0.128

Lamp flux(lm): 755.3

Power (W): 14.540

Number of Lamps: 1

PF: 0.948

Length(mm): -210

Width(mm): -210

Phm Type: C

Height(mm): 0

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Photometric Results

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Lumens(lm): 755.34, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 51.95

Central intensity(cd): 270.885, Maximum intensity(cd): 270.885

Angle of maximum intensity: C=0.0  $\gamma$ =0.0

Beam Angle(50%Imax): [C0/180]Total=110.4

[C90/270]Total=109.8

Field angle(10%Imax): [C0/180]Total=158.4

[C90/270]Total=158.2

Maximum s/h(1/2): C0\_180=1.26 C90\_270=1.26

Maximum s/h(1/4): C0\_180=1.37 C90\_270=1.37

Up flux rate of lamp(%): 0.84%

Down flux rate of lamp(%): 99.16%

Up flux rate of LUM(%): 0.84%

Down flux rate of LUM(%): 99.16%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 79.692%

## Light Blue USA-Rayhil INV-9-CCT-120-\*\*-3500K

Zonal flux distribution table

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$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	270.885	0.000	0	0.00%	0.00%
5.0	269.855	6.464	6.464	0.86%	0.86%
10.0	266.002	19.169	25.634	2.54%	3.39%
15.0	260.050	31.205	56.839	4.13%	7.52%
20.0	251.733	42.178	99.017	5.58%	13.11%
25.0	241.240	51.704	150.721	6.85%	19.95%
30.0	228.535	59.450	210.171	7.87%	27.82%
35.0	213.885	65.149	275.32	8.63%	36.45%
40.0	196.831	68.525	343.845	9.07%	45.52%
45.0	177.869	69.379	413.224	9.19%	54.71%
50.0	156.654	67.595	480.819	8.95%	63.66%
55.0	135.786	63.586	544.405	8.42%	72.07%
60.0	113.123	57.535	601.94	7.62%	79.69%
65.0	90.537	49.510	651.45	6.55%	86.25%
70.0	67.301	39.966	691.416	5.29%	91.54%
75.0	45.096	29.379	720.795	3.89%	95.43%
80.0	24.150	18.529	739.323	2.45%	97.88%
85.0	5.342	8.014	747.337	1.06%	98.94%
90.0	0.763	1.672	749.009	0.22%	99.16%
95.0	0.382	0.313	749.322	0.04%	99.20%
100.0	0.267	0.176	749.498	0.02%	99.23%
105.0	0.420	0.184	749.682	0.02%	99.25%
110.0	0.458	0.229	749.912	0.03%	99.28%
115.0	0.687	0.290	750.201	0.04%	99.32%
120.0	0.916	0.390	750.591	0.05%	99.37%
125.0	0.992	0.441	751.032	0.06%	99.43%
130.0	1.183	0.473	751.505	0.06%	99.49%
135.0	1.183	0.478	751.983	0.06%	99.56%
140.0	1.603	0.516	752.499	0.07%	99.62%
145.0	1.756	0.560	753.059	0.07%	99.70%
150.0	1.908	0.540	753.599	0.07%	99.77%
155.0	2.251	0.526	754.125	0.07%	99.84%
160.0	2.213	0.468	754.593	0.06%	99.90%
165.0	2.060	0.352	754.945	0.05%	99.95%
170.0	1.793	0.229	755.174	0.03%	99.98%
175.0	1.831	0.130	755.304	0.02%	100.00%
180.0	0.916	0.033	755.337	0.00%	100.00%

Equipment: LC-I-902 GMS-2000  
Temperature( $^{\circ}\text{C}$ ): 24.8

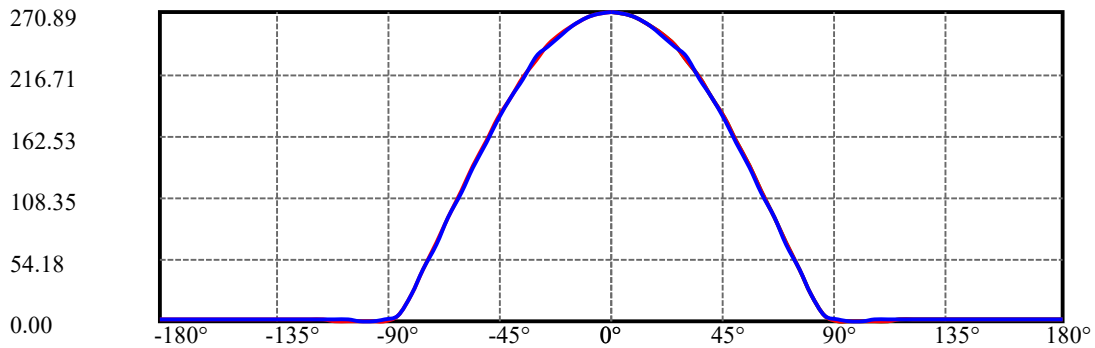
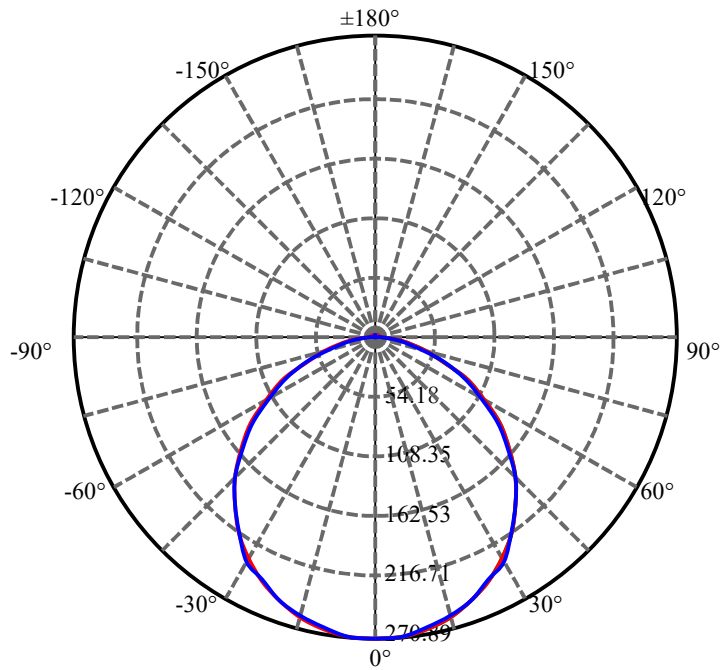
Date: 2024/12/18  
Humidity(%): 60.2%

Operator: JUN WANG  
Distance(m): 30.26

ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	210.17	27.82%	27.82%
0-40	343.85	45.52%	45.52%
0-60	601.94	79.69%	79.69%
0-90	749.01	99.16%	99.16%
0-120	750.59	99.37%	99.37%
0-180	755.34	100.00%	100.00%
60-90	147.07	19.47%	19.47%
90-120	1.58	0.21%	0.21%
90-130	2.50	0.33%	0.33%
90-150	4.59	0.61%	0.61%
90-180	6.30	0.83%	0.83%
0-60.24	604.27	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	25.63
10-20	73.38
20-30	111.15
30-40	133.67
40-50	136.97
50-60	121.12
60-70	89.48
70-80	47.91
80-90	9.69
90-100	0.49
100-110	0.41
110-120	0.68
120-130	0.91
130-140	0.99
140-150	1.10
150-160	0.99
160-170	0.58
170-180	0.13



C0(Max): —————

C0/C180: —————

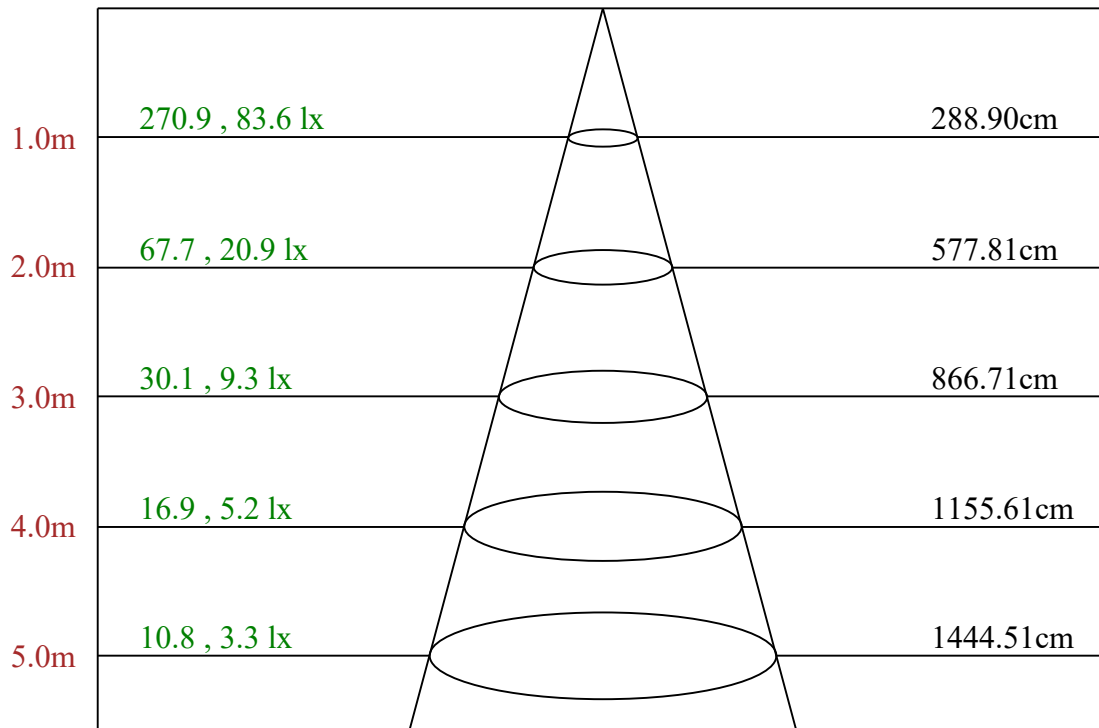
C90/C270: —————

Field angle(10%Imax):C0/180Left:79.2 Right:79.2

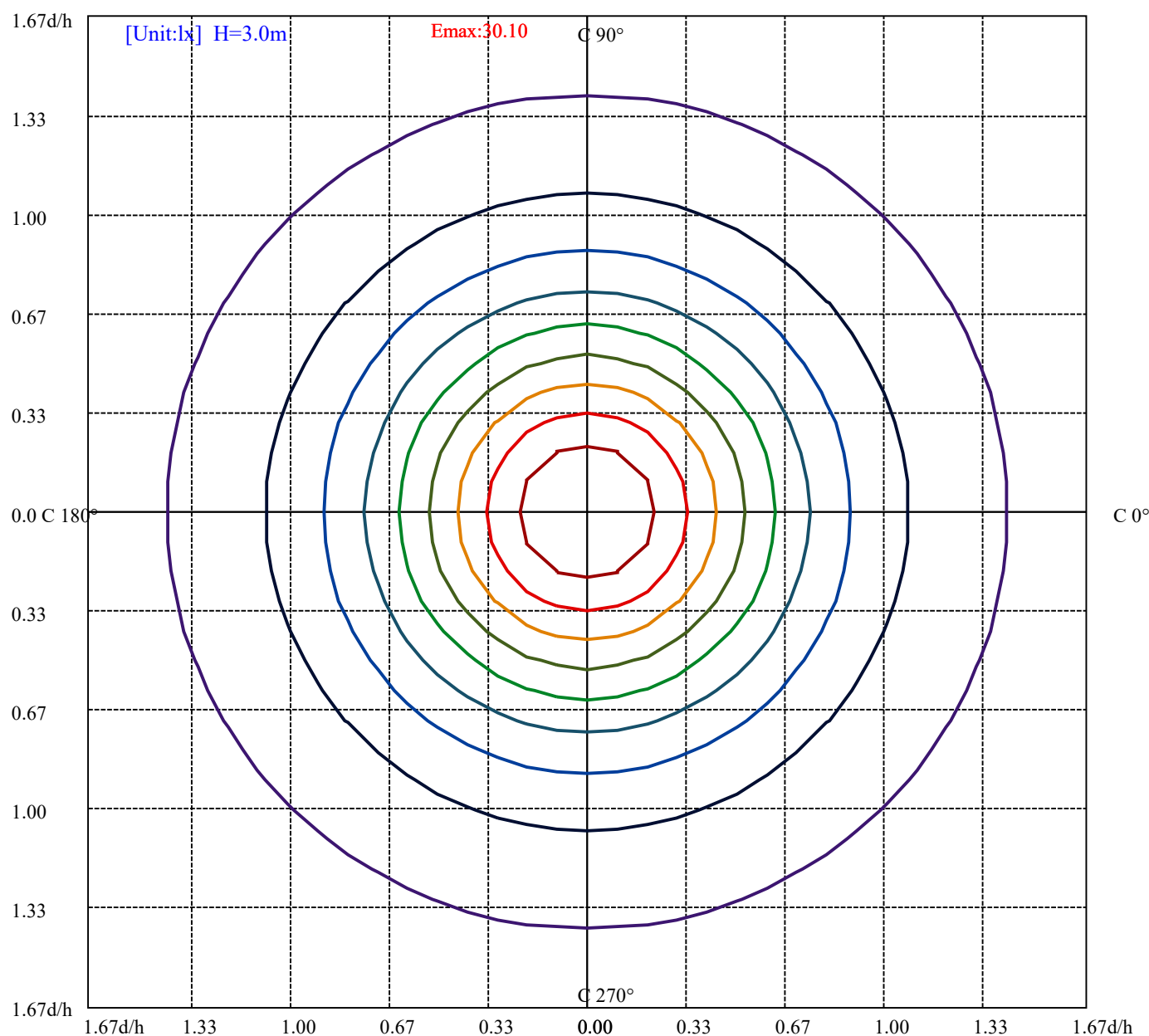
:C90/270Left:79.1 Right:79.1

Beam Angle(50%Imax):C0/180Left:55.2 Right:55.2

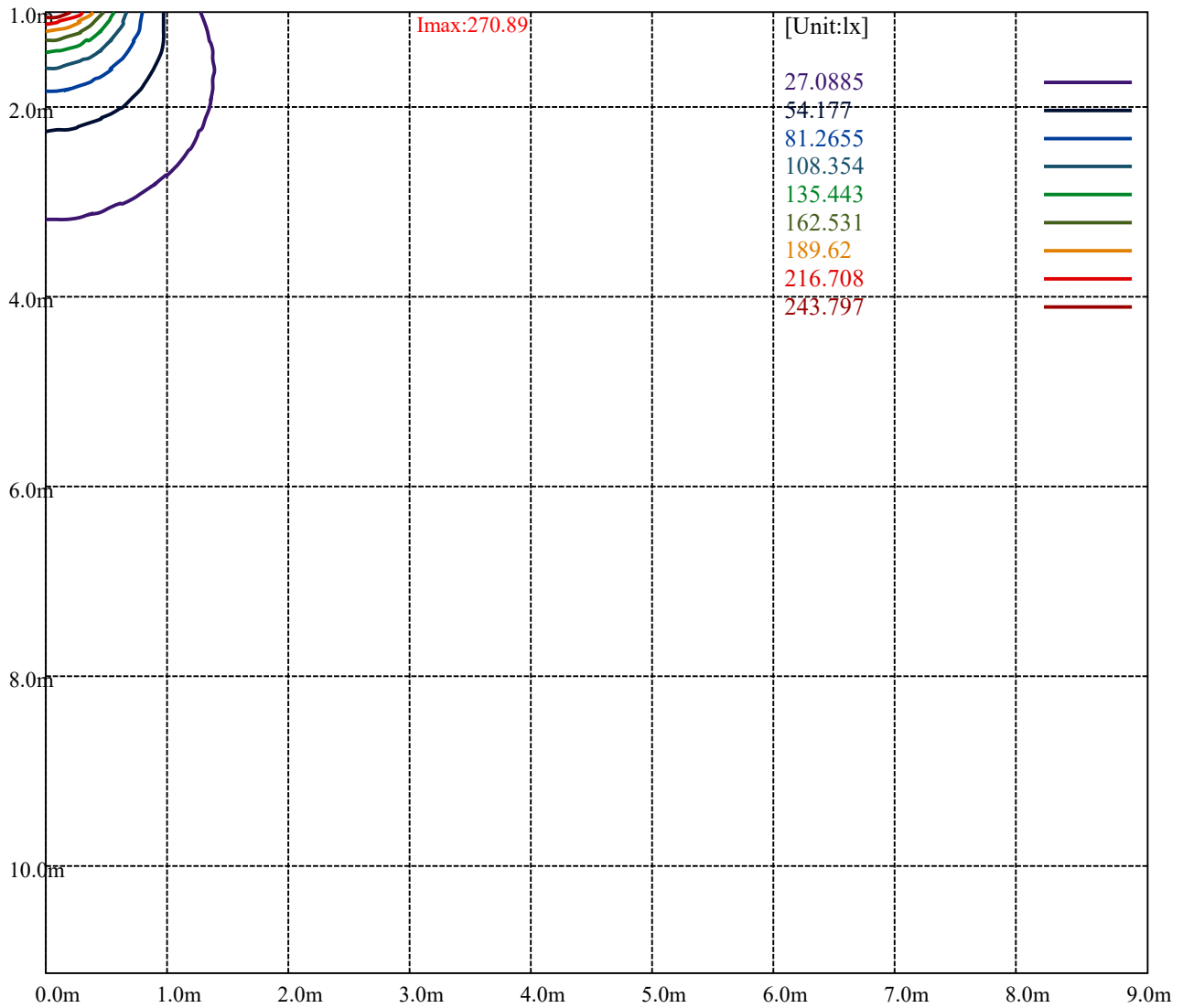
:C90/270Left:54.9 Right:54.9



Max , Ave      Beam angle of C0 plane 110.61



(10%Emax) 3.009833	—
(20%Emax) 6.019667	—
(30%Emax) 9.0295	—
(40%Emax) 12.03933	—
(50%Emax) 15.04911	—
(60%Emax) 18.059	—
(70%Emax) 21.06878	—
(80%Emax) 24.07867	—
(90%Emax) 27.08845	—



# Light Blue USA-Rayhil INV-9-CCT-120-\*\*-3500K

## Luminance Limiting Curve(no luminous side)

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Luminance Table

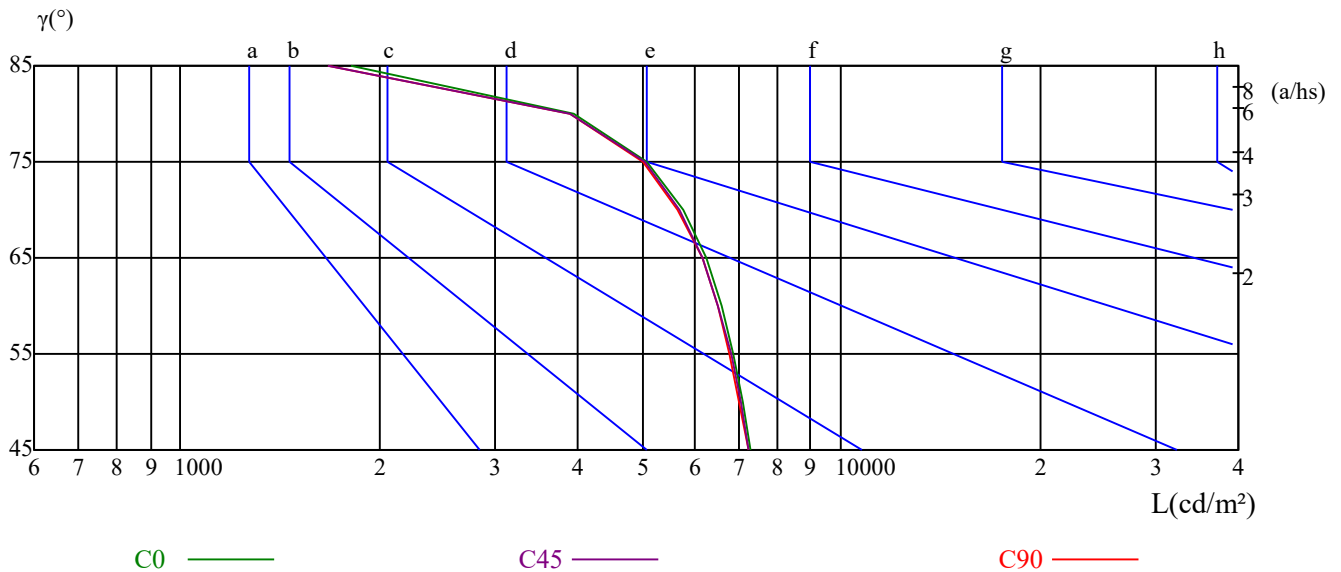
$\gamma$	45	50	55	60	65	70	75	80	85
C0	7281	7087	6864	6583	6262	5774	5087	3943	1813
C45	7268	7070	6818	6513	6158	5678	5053	3880	1667
C90	7230	7029	6795	6500	6158	5639	5002	3880	1667

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
6262	6158	6158	5087	5002	5053	1813	1667	1667

Glare Table

Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	$\leq 300$				
1.5	B		2000	1000	500	$\leq 300$			
1.85	C			2000	1000	500	$\leq 300$		
2.2	D				2000	1000	500	$\leq 300$	
2.55	E					2000	1000	500	$\leq 300$
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





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	COEFFCIENTS OF UTILIZATION RHOFC=20 CU															
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	1.01	1.01	1.01	0.99
1	1.04	1.00	0.96	1.02	0.98	0.95	0.97	0.94	0.92	0.93	0.91	0.89	0.90	0.88	0.86	0.84
2	0.91	0.84	0.79	0.89	0.83	0.78	0.85	0.80	0.76	0.82	0.78	0.74	0.79	0.75	0.72	0.70
3	0.80	0.72	0.66	0.78	0.71	0.65	0.75	0.69	0.64	0.72	0.67	0.62	0.70	0.65	0.61	0.59
4	0.71	0.62	0.56	0.70	0.61	0.55	0.67	0.60	0.54	0.64	0.58	0.53	0.62	0.57	0.53	0.50
5	0.63	0.54	0.48	0.62	0.54	0.48	0.60	0.53	0.47	0.58	0.51	0.46	0.56	0.50	0.46	0.44
6	0.57	0.48	0.42	0.56	0.48	0.42	0.54	0.47	0.41	0.52	0.46	0.41	0.51	0.45	0.40	0.38
7	0.52	0.43	0.37	0.51	0.43	0.37	0.49	0.42	0.36	0.48	0.41	0.36	0.46	0.40	0.36	0.34
8	0.47	0.39	0.33	0.46	0.38	0.33	0.45	0.38	0.33	0.44	0.37	0.32	0.43	0.37	0.32	0.30
9	0.43	0.35	0.30	0.43	0.35	0.30	0.41	0.34	0.29	0.40	0.34	0.29	0.39	0.33	0.29	0.27
10	0.40	0.32	0.27	0.39	0.32	0.27	0.38	0.31	0.27	0.37	0.31	0.26	0.36	0.31	0.26	0.25

Light Blue USA-Rayhil INV-9-CCT-120-\*\*-3500K

Intensity data(cd)									Appendix Page: 10 Total:12		
C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0		
0.0	270.89	270.89	267.24	261.76	254.47	245.35	232.58	218.90	201.57		
15.0	270.89	269.97	266.32	261.76	254.47	244.43	232.58	217.98	201.57		
30.0	270.89	270.89	267.22	261.73	253.50	244.35	232.45	217.81	201.33		
45.0	270.89	269.97	267.22	261.73	253.50	243.43	230.62	216.89	200.42		
60.0	270.89	269.97	266.31	261.73	252.58	243.43	230.62	216.89	200.42		
75.0	270.89	269.97	266.31	260.82	253.50	242.52	230.62	216.89	200.42		
90.0	270.89	269.97	266.31	260.82	252.58	242.52	230.62	216.89	200.42		
105.0	270.89	270.89	267.21	261.70	254.36	243.34	231.40	217.63	200.18		
120.0	270.89	270.89	263.54	261.70	254.36	244.26	232.32	218.54	202.02		
135.0	270.89	269.97	267.22	261.73	253.50	244.35	221.47	218.72	201.33		
150.0	270.89	270.89	268.13	262.62	255.27	245.17	233.24	219.46	202.93		
165.0	270.89	270.89	268.13	262.62	254.36	245.17	233.24	219.46	203.85		
180.0	270.89	269.06	264.50	258.12	249.91	238.96	225.28	209.78	192.45		
195.0	270.89	269.06	265.41	258.12	249.00	238.96	225.28	210.69	191.53		
210.0	270.89	269.97	265.39	258.99	249.84	238.85	226.96	210.48	193.10		
225.0	270.89	269.05	265.39	258.99	249.84	238.85	226.04	210.48	193.10		
240.0	270.89	269.05	265.39	258.99	249.84	238.85	225.13	209.57	192.18		
255.0	270.89	269.05	264.48	258.07	249.84	237.94	225.13	210.48	193.10		
270.0	270.89	269.05	264.48	258.07	249.84	237.94	234.28	208.65	192.18		
285.0	270.89	269.97	269.05	258.95	249.77	238.75	225.89	209.36	192.83		
300.0	270.89	269.97	265.38	258.95	249.77	238.75	224.97	210.28	192.83		
315.0	270.89	269.05	264.48	257.16	248.92	237.94	225.13	209.57	191.27		
330.0	270.89	269.05	264.46	258.03	249.77	237.83	224.97	209.36	191.92		
345.0	270.89	269.05	264.46	258.03	248.85	237.83	224.05	208.44	191.00		
360.0	270.89	270.89	267.24	261.76	254.47	245.35	232.58	218.90	201.57		

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	183.33	163.26	141.37	120.39	97.59	73.88	51.08	29.19	8.21		
15.0	182.41	162.35	140.46	118.57	95.77	72.97	50.16	29.19	8.21		
30.0	182.12	161.98	140.93	118.05	96.09	71.38	50.33	27.45	8.24		
45.0	182.12	161.07	140.93	118.05	95.18	72.30	50.33	26.54	7.32		
60.0	181.20	161.07	140.02	117.14	95.18	72.30	49.42	27.45	7.32		
75.0	179.37	161.07	140.02	117.14	94.26	71.38	48.50	27.45	7.32		
90.0	181.20	161.07	140.02	117.14	96.09	72.30	49.42	27.45	7.32		
105.0	183.65	162.53	141.41	118.45	95.50	72.54	49.59	28.47	7.35		
120.0	182.73	162.53	141.41	120.29	97.33	72.54	49.59	28.47	8.26		
135.0	183.03	163.81	140.93	118.97	96.09	73.21	51.25	29.28	8.24		
150.0	184.57	147.84	142.33	120.29	97.33	74.38	52.34	30.30	9.18		
165.0	185.49	165.29	143.25	121.21	98.25	71.62	53.26	30.30	10.10		
180.0	173.29	152.32	131.34	107.62	85.73	62.93	40.13	18.24	2.74		
195.0	173.29	152.32	130.43	107.62	84.82	62.02	40.13	19.15	2.74		
210.0	172.96	152.83	131.78	107.07	86.02	63.15	41.18	19.22	2.75		
225.0	173.88	152.83	130.87	107.99	85.11	62.23	40.27	19.22	2.75		
240.0	172.96	152.83	131.78	108.90	86.02	63.15	40.27	18.30	2.75		
255.0	172.96	151.92	129.95	107.07	84.19	62.23	39.35	34.78	2.75		
270.0	172.96	151.92	129.95	107.99	84.19	61.32	40.27	19.22	2.75		
285.0	173.55	152.43	131.31	108.35	85.40	62.44	39.48	18.37	2.75		
300.0	173.55	152.43	129.47	107.44	84.48	62.44	40.40	18.37	2.75		
315.0	172.96	151.92	129.04	106.16	84.19	61.32	39.35	18.30	1.83		
330.0	172.63	151.51	130.39	106.52	84.48	60.60	38.57	17.45	1.84		
345.0	172.63	150.59	129.47	106.52	83.56	60.60	37.65	17.45	2.75		
360.0	183.33	163.26	141.37	120.39	97.59	73.88	51.08	29.19	8.21		

Light Blue USA-Rayhil INV-9-CCT-120-\*\*-3500K

Intensity data(cd)									Appendix Page: 11 Total:12		
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0		
0.0	0.91	0.00	0.00	0.00	0.00	0.91	0.91	0.91	0.91		
15.0	0.91	0.00	0.00	0.00	0.00	0.91	0.91	0.91	0.91		
30.0	0.92	0.00	0.00	0.00	0.00	0.00	0.92	0.92	0.92		
45.0	0.92	0.00	0.00	0.00	0.00	0.92	0.92	0.92	0.92		
60.0	0.92	0.00	0.00	0.00	0.00	0.00	0.92	0.92	0.92		
75.0	0.00	0.00	0.00	0.00	0.00	0.92	0.92	0.92	0.92		
90.0	0.92	0.00	0.00	0.92	0.92	0.92	0.92	0.92	1.83		
105.0	0.92	0.00	0.00	0.00	0.00	0.92	0.92	0.92	1.84		
120.0	0.92	0.00	0.00	0.00	0.00	0.92	0.92	0.92	0.92		
135.0	0.92	0.00	0.00	0.00	0.00	0.00	0.92	0.92	0.92		
150.0	0.92	0.00	0.00	0.00	0.00	0.00	0.92	0.92	0.92		
165.0	0.92	0.00	0.00	0.00	0.00	0.00	0.92	0.92	0.92		
180.0	0.00	0.91	0.00	0.91	0.91	0.91	0.91	0.91	0.91		
195.0	0.91	0.91	0.00	0.91	0.91	0.91	0.91	0.91	0.91		
210.0	0.92	0.92	0.92	0.92	0.92	0.00	0.92	0.92	0.92		
225.0	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
240.0	0.00	0.00	0.00	0.00	0.92	0.92	0.92	0.92	0.92		
255.0	0.00	0.00	0.00	0.00	0.00	0.92	0.92	0.92	0.92		
270.0	0.92	0.92	0.00	0.92	0.92	0.92	0.92	0.92	1.83		
285.0	0.92	0.92	0.92	0.92	0.92	0.92	0.92	1.84	1.84		
300.0	0.92	0.92	0.92	0.92	0.92	0.92	0.92	1.84	1.84		
315.0	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	1.83		
330.0	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	1.84		
345.0	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
360.0	0.91	0.00	0.00	0.00	0.00	0.91	0.91	0.91	0.91		
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0		
0.0	0.91	1.82	1.82	1.82	2.74	2.74	2.74	1.82	1.82		
15.0	0.91	1.82	1.82	1.82	2.74	2.74	2.74	1.82	1.82		
30.0	0.92	1.83	1.83	1.83	2.75	2.75	2.75	1.83	1.83		
45.0	0.92	1.83	1.83	1.83	1.83	1.83	1.83	2.75	1.83		
60.0	0.92	1.83	1.83	1.83	1.83	2.75	1.83	1.83	1.83		
75.0	0.92	1.83	1.83	1.83	2.75	2.75	1.83	1.83	1.83		
90.0	1.83	1.83	1.83	2.75	2.75	2.75	2.75	1.83	1.83		
105.0	1.84	1.84	2.75	2.75	2.75	2.75	2.75	1.84	1.84		
120.0	1.84	1.84	1.84	2.75	2.75	2.75	2.75	1.84	1.84		
135.0	0.92	1.83	1.83	2.75	2.75	2.75	2.75	2.75	1.83		
150.0	0.92	1.84	1.84	1.84	2.75	2.75	2.75	2.75	1.84		
165.0	0.92	0.92	1.84	1.84	1.84	1.84	2.75	2.75	1.84		
180.0	0.91	0.91	0.91	0.91	1.82	1.82	1.82	1.82	1.82		
195.0	0.91	0.91	0.91	0.91	1.82	1.82	1.82	1.82	1.82		
210.0	0.92	0.92	0.92	0.92	1.83	1.83	1.83	1.83	1.83		
225.0	0.00	0.92	0.92	0.92	1.83	1.83	1.83	1.83	1.83		
240.0	0.92	1.83	1.83	1.83	1.83	0.92	1.83	1.83	1.83		
255.0	0.92	1.83	1.83	1.83	1.83	1.83	0.92	0.92	1.83		
270.0	1.83	1.83	1.83	1.83	1.83	1.83	0.92	0.92	1.83		
285.0	1.84	1.84	1.84	2.75	2.75	1.84	0.92	0.92	1.84		
300.0	1.84	1.84	2.75	2.75	2.75	2.75	1.84	0.92	1.84		
315.0	1.83	1.83	1.83	1.83	1.83	1.83	1.83	0.92	1.83		
330.0	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84		
345.0	0.92	0.92	1.84	1.84	1.84	1.84	1.84	1.84	1.84		
360.0	0.91	1.82	1.82	1.82	2.74	2.74	2.74	1.82	1.82		

Intensity data(cd)

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C/γ(°)	180.0
0.0	1.82
15.0	1.82
30.0	1.83
45.0	1.83
60.0	1.83
75.0	1.83
90.0	1.83
105.0	1.84
120.0	1.84
135.0	1.83
150.0	1.84
165.0	1.84
180.0	0.00
195.0	0.00
210.0	0.00
225.0	0.00
240.0	0.00
255.0	0.00
270.0	0.00
285.0	0.00
300.0	0.00
315.0	0.00
330.0	0.00
345.0	0.00
360.0	1.82