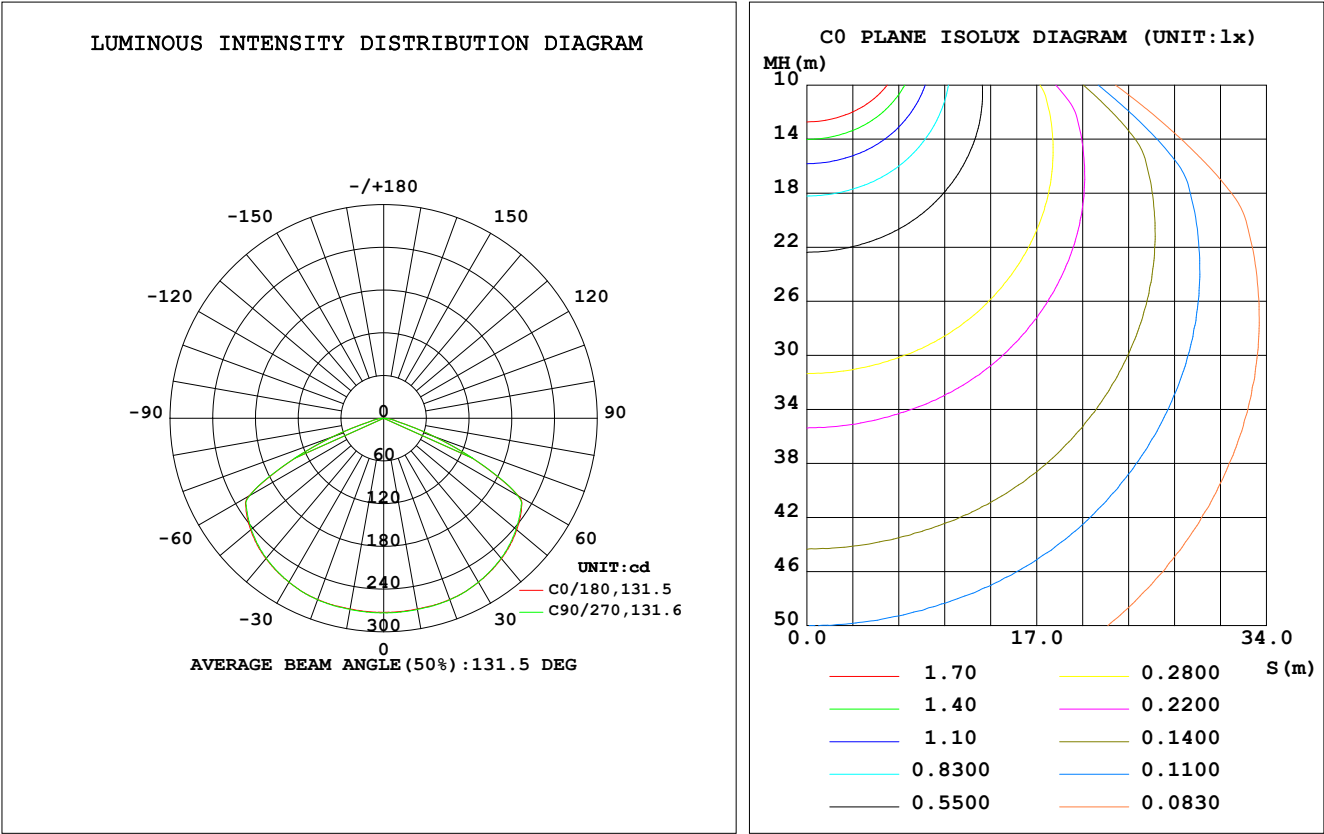


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:230.08V I:0.0614A P:12.785W PF:0.9054 Freq:50.00Hz		
Lamp Flux:981.828x1 lm		
NAME: LED Light	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Ross Gardam	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 76.79 lm/W
Model: Oa1M057g	Pendant-Natural oak	Imax(cd)	273.7	S/MH(C0/180)	1.47	
NOMINAL POWER(W)	14	LOR(%)	100.0	S/MH(C90/270)	1.47	
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	981.83	η UP,DN(C0-180)	0.0,50.0	
NOMINAL FLUX(lm)	981.828	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.0	
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.50	
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	1.55	



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.1DEG
Operators:Wilson
Test Date:2022-11-30

Checker: Near Gao

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
Humidity:60.5%
Test Distance:2.617m [K=1.0000]
Remarks: File No.: WT-F-504-3206-01-A

Assessor: Akin Xu



ROSS GARDAM

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	272.3	272.4	272.7	272.4	272.3	272.4	272.7	272.4	0- 10	26.02	26.02	2.65,2.65
20	271.1	271.1	271.1	271.1	271.1	271.1	271.1	271.1	10- 20	77.02	103.0	10.5,10.5
30	266.3	265.7	265.8	265.7	266.3	265.7	265.8	265.7	20- 30	124.3	227.4	23.2,23.2
40	257.4	256.7	256.5	256.7	257.4	256.7	256.5	256.7	30- 40	164.2	391.5	39.9,39.9
50	244.0	243.1	242.5	243.1	244.0	243.1	242.5	243.1	40- 50	193.8	585.3	59.6,59.6
60	218.9	217.9	217.0	217.9	218.9	217.9	217.0	217.9	50- 60	209.4	794.7	80.9,80.9
70	76.37	76.47	76.45	76.47	76.37	76.47	76.45	76.47	60- 70	146.3	941.1	95.8,95.8
80	13.31	13.20	13.14	13.20	13.31	13.20	13.14	13.20	70- 80	34.70	975.8	99.4,99.4
90	0.0303	0.0316	0.0308	0.0316	0.0303	0.0316	0.0308	0.0316	80- 90	6.068	981.8	100,100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 485.53 lm

%lum = 49.5%
%lamp = 49.5%

Conical surface Flux(120deg): 794.74 lm

%lum = 80.9%
%lamp = 80.9%

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.1DEG
Operators:Wilson
Test Date:2022-11-30

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
Humidity:60.5%
Test Distance:2.617m [K=1.0000]
Remarks: File No.: WT-F-504-3206-01-A

Checker: Near Gao

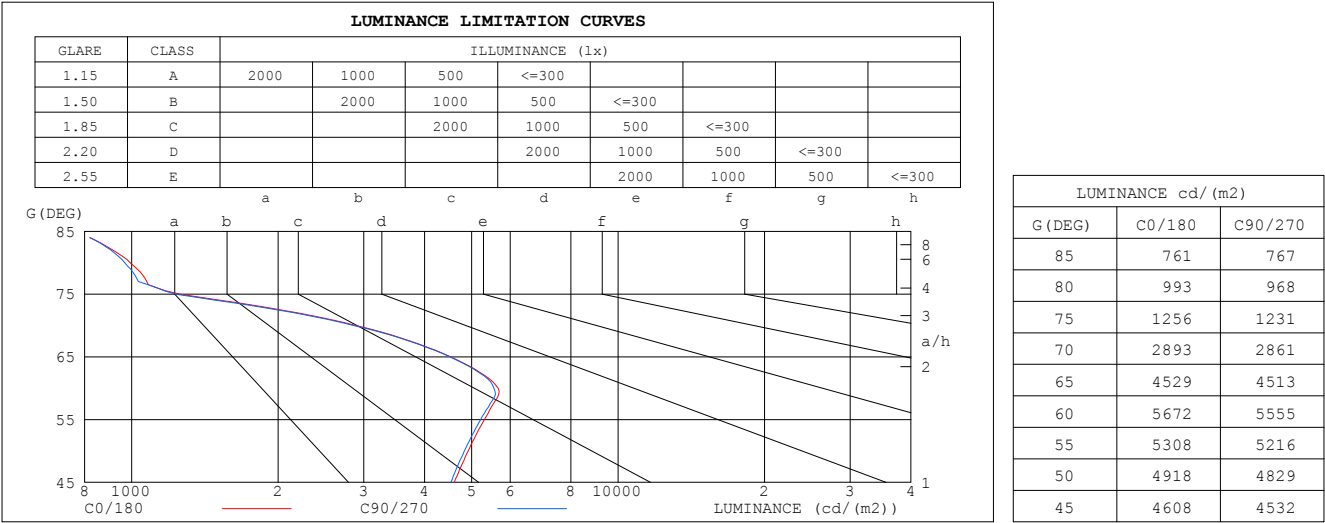
Assessor: Akin Xu



ROSS GARDAM

LUMINANCE LIMITATION CURVES

Test:U:230.08V I:0.0614A P:12.785W PF:0.9054 Freq:50.00Hz Lamp Flux:981.828x1 lm		
NAME: LED Light	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Ross Gardam	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.1DEG
Operators:Wilson
Test Date:2022-11-30

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
Humidity:60.5%
Test Distance:2.617m [K=1.0000]
Remarks: File No.: WT-F-504-3206-01-A

Checker: Near Gao

Assessor: Akin Xu

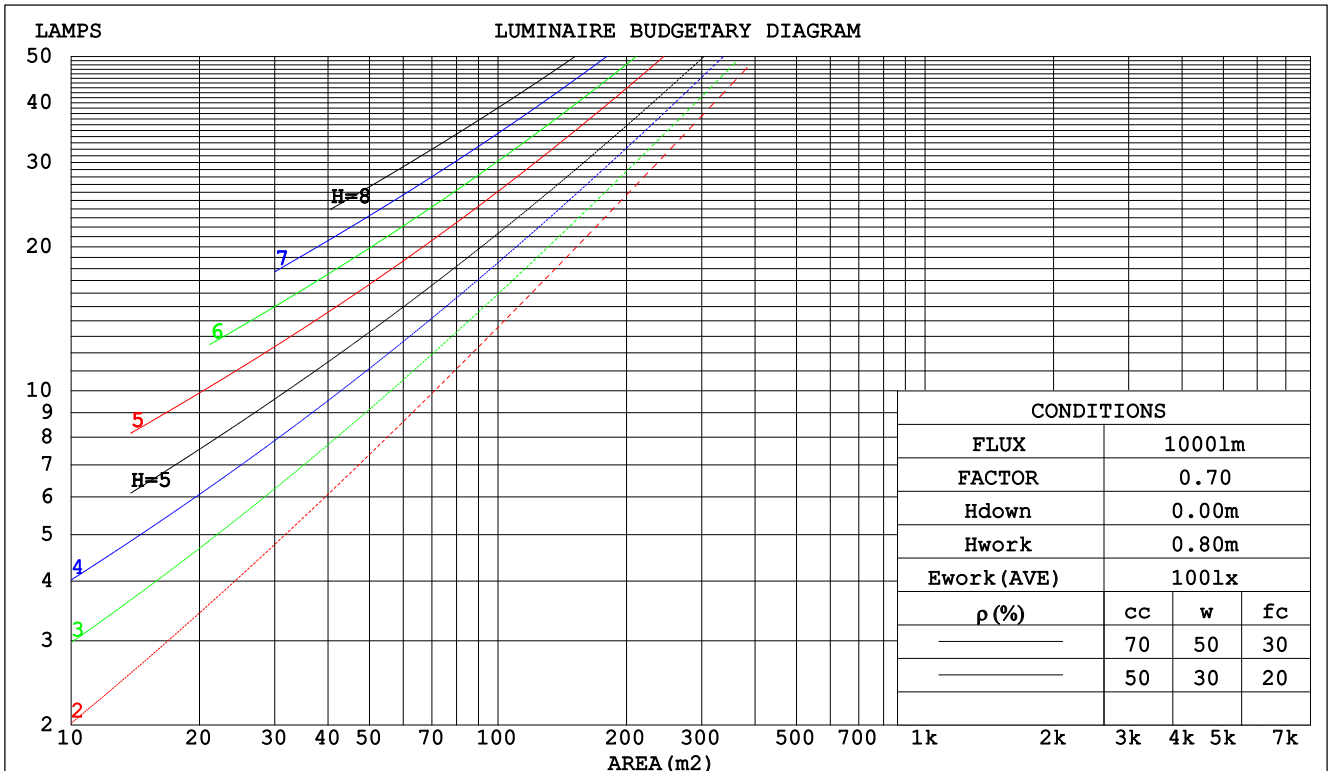


ROSS GARDAM

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.08V I:0.0614A P:12.785W PF:0.9054 Freq:50.00Hz		
Lamp Flux:981.828x1 lm		
NAME: LED Light	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Ross Gardam	SUR.:	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
0.0	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
1.0	1.05	1.01	.97	1.02	.99	.95	.98	.95	.92	.94	.92	.90	.91	.89	.87	.85
2.0	.91	.84	.79	.89	.83	.78	.86	.80	.76	.82	.78	.74	.79	.76	.72	.70
3.0	.79	.71	.65	.78	.70	.64	.75	.68	.63	.72	.66	.62	.69	.65	.61	.58
4.0	.70	.61	.54	.68	.60	.53	.66	.58	.53	.63	.57	.52	.61	.56	.51	.49
5.0	.62	.52	.46	.60	.52	.45	.58	.51	.45	.56	.50	.44	.54	.49	.44	.42
6.0	.55	.46	.39	.54	.45	.39	.52	.44	.39	.50	.44	.38	.49	.43	.38	.36
7.0	.49	.40	.34	.49	.40	.34	.47	.39	.34	.46	.39	.33	.44	.38	.33	.31
8.0	.45	.36	.30	.44	.36	.30	.43	.35	.30	.41	.35	.30	.40	.34	.29	.27
9.0	.41	.32	.27	.40	.32	.27	.39	.32	.26	.38	.31	.26	.37	.31	.26	.24
10.0	.38	.29	.24	.37	.29	.24	.36	.29	.24	.35	.28	.24	.34	.28	.24	.22



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.1DEG
 Operators: Wilson
 Test Date: 2022-11-30

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity: 60.5%
 Test Distance: 2.617m [K=1.0000]
 Remarks: File No.: WT-F-504-3206-01-A

Checker: Near Gao

Assessor: Akin Xu



ROSS GARDAM

WEC AND CCEC

Test:U:230.08V I:0.0614A P:12.785W PF:0.9054 Freq:50.00Hz Lamp Flux:981.828x1 lm		
NAME: LED Light	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Ross Gardam	SUR.:	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
p _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
p _{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.294	.167	.053	.287	.164	.052	.274	.157	.050	.262	.151	.048	.250	.145	.047	
2.0	.287	.157	.048	.280	.154	.048	.269	.149	.046	.258	.145	.045	.248	.140	.044	
3.0	.270	.144	.043	.265	.142	.043	.254	.138	.042	.245	.134	.041	.236	.131	.040	
4.0	.252	.131	.039	.247	.129	.038	.238	.126	.038	.230	.123	.037	.222	.120	.037	
5.0	.235	.120	.035	.230	.118	.034	.222	.116	.034	.214	.113	.034	.207	.111	.033	
6.0	.218	.109	.031	.215	.108	.031	.207	.106	.031	.200	.104	.031	.194	.102	.030	
7.0	.204	.101	.029	.200	.100	.028	.194	.098	.028	.187	.096	.028	.182	.094	.028	
8.0	.190	.093	.026	.187	.092	.026	.181	.091	.026	.176	.089	.026	.171	.088	.026	
9.0	.178	.086	.024	.176	.086	.024	.170	.084	.024	.165	.083	.024	.161	.082	.024	
10.0	.168	.080	.022	.165	.080	.022	.160	.079	.022	.156	.077	.022	.152	.076	.022	

pcc	80%			70%			50%			30%			10%			0
p _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
p _{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio			Ceiling Cavity Exitance Coefficients(CCEC)												
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.179	.156	.136	.153	.134	.117	.105	.092	.081	.060	.053	.047	.019	.017	.015	
2.0	.172	.132	.099	.147	.114	.085	.101	.079	.059	.058	.046	.035	.019	.015	.011	
3.0	.165	.114	.074	.141	.099	.064	.097	.068	.045	.056	.040	.027	.018	.013	.009	
4.0	.158	.101	.058	.135	.087	.050	.093	.061	.035	.054	.036	.021	.017	.012	.007	
5.0	.151	.091	.047	.129	.079	.040	.089	.055	.029	.052	.032	.017	.017	.011	.006	
6.0	.144	.082	.038	.124	.071	.033	.085	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.137	.076	.033	.118	.066	.028	.082	.046	.020	.047	.027	.012	.015	.009	.004	
8.0	.131	.070	.028	.113	.061	.025	.078	.043	.017	.045	.025	.010	.015	.008	.003	
9.0	.125	.065	.025	.107	.056	.022	.074	.040	.015	.043	.023	.009	.014	.008	.003	
10.0	.119	.061	.022	.103	.053	.019	.071	.037	.014	.042	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.1DEG
Operators:Wilson
Test Date:2022-11-30

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
Humidity:60.5%
Test Distance:2.617m [K=1.0000]
Remarks: File No.: WT-F-504-3206-01-A

Checker: Near Gao

Assessor: Akin Xu



ROSS GARDAM

UGR(Unified Glare Rating) Table

Test:U:230.08V I:0.0614A P:12.785W PF:0.9054 Freq:50.00Hz Lamp Flux:981.828x1 lm											
NAME: LED Light					TYPE:			WEIGHT:			
SPEC.:					DIM.:			SERIAL No.:			
MFR.: Ross Gardam					SUR.:			Shielding Angle:			
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3	
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3	
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
Room dimensions		Viewed crosswise					Viewed endwise				
x = 2H y = 2H	19.5	21.1	19.8	21.3	21.5	19.5	21.0	19.7	21.2	21.4	
	3H	20.4	21.8	20.7	22.0	22.3	20.3	21.8	20.6	22.0	22.2
	4H	20.4	21.7	20.7	22.0	22.3	20.3	21.7	20.7	22.0	22.2
	6H	20.3	21.6	20.7	21.9	22.2	20.3	21.6	20.6	21.8	22.1
	8H	20.3	21.5	20.6	21.8	22.1	20.3	21.5	20.6	21.8	22.1
	12H	20.3	21.4	20.6	21.7	22.0	20.2	21.4	20.6	21.7	22.0
4H 2H	20.0	21.4	20.4	21.7	21.9	20.0	21.4	20.3	21.6	21.9	
	3H	20.9	22.1	21.3	22.4	22.7	20.9	22.1	21.3	22.4	22.7
	4H	21.0	22.0	21.3	22.4	22.7	20.9	22.0	21.3	22.3	22.7
	6H	21.0	21.9	21.4	22.3	22.6	20.9	21.9	21.3	22.2	22.6
	8H	20.9	21.8	21.4	22.2	22.6	20.9	21.8	21.3	22.2	22.5
	12H	20.9	21.7	21.3	22.1	22.5	20.9	21.7	21.3	22.1	22.5
8H 4H	20.9	21.8	21.3	22.2	22.6	20.9	21.8	21.3	22.1	22.5	
	6H	21.0	21.7	21.4	22.1	22.5	20.9	21.6	21.4	22.0	22.5
	8H	21.0	21.6	21.4	22.0	22.5	20.9	21.6	21.4	22.0	22.4
	12H	21.0	21.5	21.4	21.9	22.4	20.9	21.5	21.4	21.9	22.4
12H 4H	20.9	21.7	21.3	22.1	22.5	20.9	21.7	21.3	22.1	22.5	
	6H	20.9	21.6	21.4	22.0	22.4	20.9	21.5	21.4	22.0	22.4
	8H	20.9	21.5	21.4	21.9	22.4	20.9	21.5	21.4	21.9	22.4
Variations with the observer position at spacings(CIE Pub.117):											
S = 1.0H	+ 0.2 / - 0.3					+ 0.3 / - 0.3					
1.5H	+ 0.6 / - 0.6					+ 0.6 / - 0.6					
2.0H	+ 0.7 / - 1.5					+ 0.7 / - 1.5					

CIE Pub.117, 981.8 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = -0.1)
Area: 0.0778916 m2

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.1DEG
Operators:Wilson
Test Date:2022-11-30

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
Humidity:60.5%
Test Distance:2.617m [K=1.0000]
Remarks: File No.: WT-F-504-3206-01-A

Checker: Near Gao

Assessor: Akin Xu



ROSS GARDAM

UTILIZATION FACTORS TABLE

Test:U:230.08V I:0.0614A P:12.785W PF:0.9054 Freq:50.00Hz Lamp Flux:981.828x1 lm		
NAME: LED Light	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Ross Gardam	SUR.:	Shielding Angle:

REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	54	42	34	53	42	34	52	41	34	27
0.80	65	53	45	64	52	45	62	51	44	37
1.00	74	63	55	73	62	55	71	64	54	47
1.25	82	71	64	81	71	64	78	69	63	55
1.50	87	77	70	86	76	70	83	75	69	61
2.00	95	86	80	93	85	79	90	83	78	70
2.50	99	91	85	97	90	84	93	87	83	74
3.00	103	96	90	100	94	89	96	91	87	79
4.00	107	101	97	104	99	95	100	96	93	84
5.00	109	104	101	107	103	99	102	99	96	87
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.1DEG
 Operators:Wilson
 Test Date:2022-11-30

Checker: Near Gao

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity:60.5%
 Test Distance:2.617m [K=1.0000]
 Remarks: File No.: WT-F-504-3206-01-A

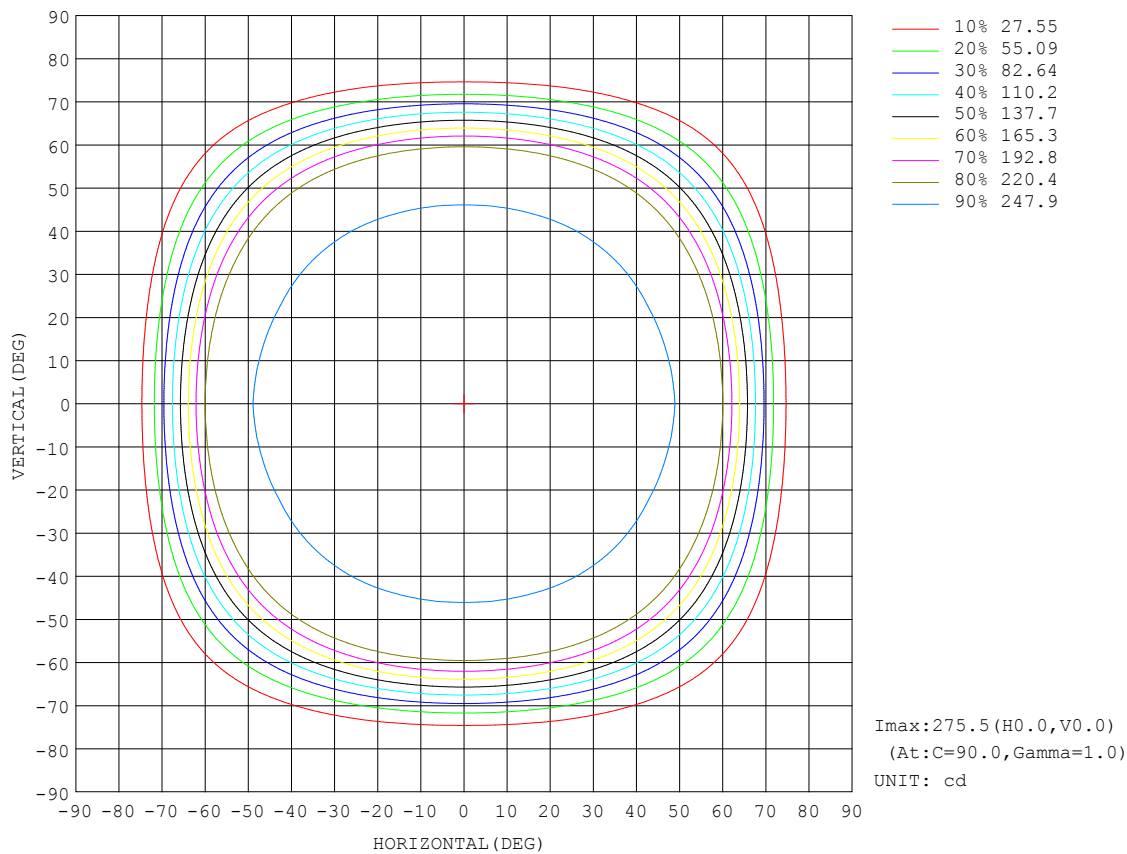
Assessor: Akin Xu



ROSS GARDAM

ISOCANDELA DIAGRAM

Test:U:230.08V I:0.0614A P:12.785W PF:0.9054 Freq:50.00Hz		
Lamp Flux:981.828x1 lm		
NAME: LED Light	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Ross Gardam	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.1DEG
Operators:Wilson
Test Date:2022-11-30

Checker: Near Gao

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
Humidity:60.5%
Test Distance:2.617m [K=1.0000]
Remarks: File No.: WT-F-504-3206-01-A

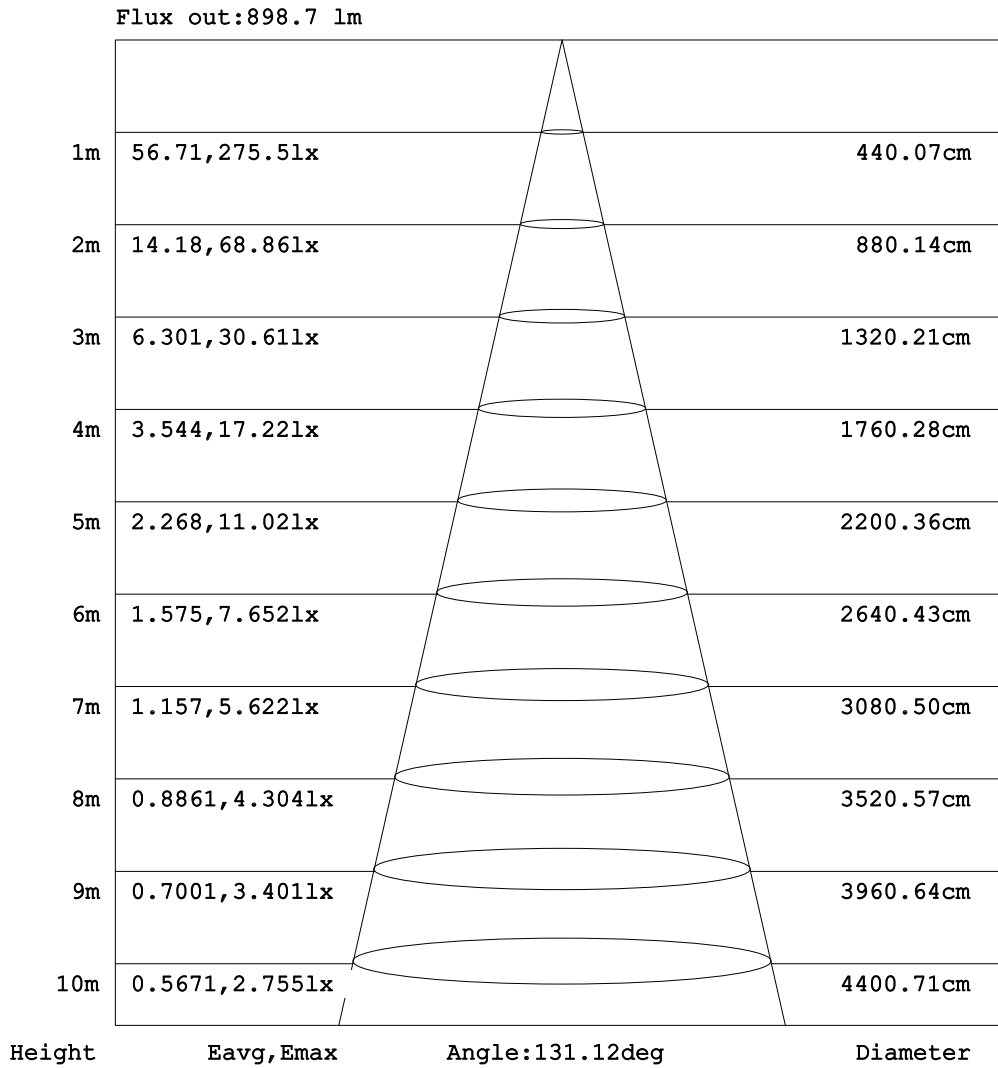
Assessor: Akin Xu



ROSS GARDAM

AAI Figure

Test:U:230.08V I:0.0614A P:12.785W PF:0.9054 Freq:50.00Hz Lamp Flux:981.828x1 lm		
NAME: LED Light	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Ross Gardam	SUR.:	Shielding Angle:



Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.1DEG
Operators:Wilson
Test Date:2022-11-30

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
Humidity:60.5%
Test Distance:2.617m [K=1.0000]
Remarks: File No.: WT-F-504-3206-01-A

Checker: Near Gao

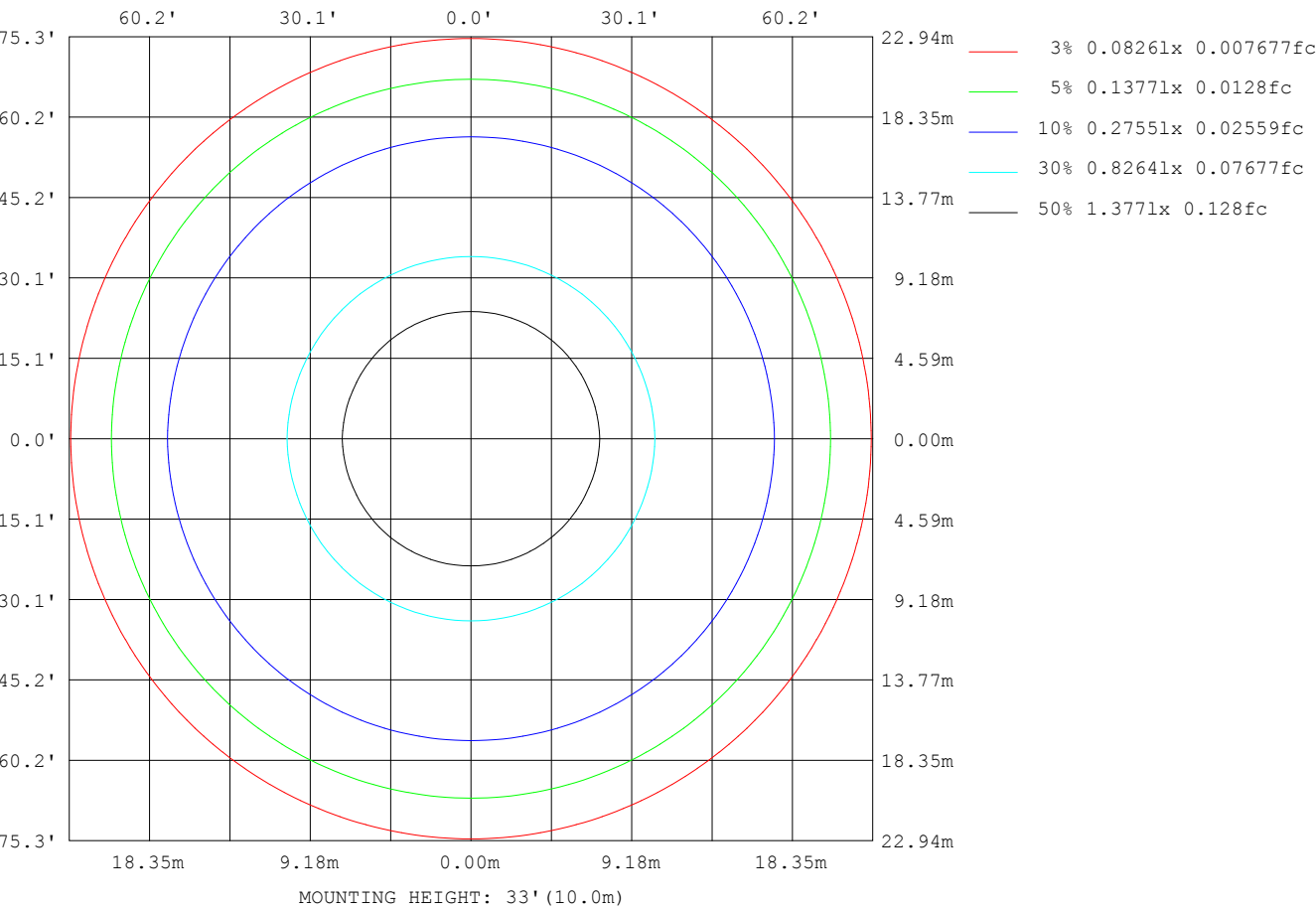
Assessor: Akin Xu



ROSS GARDAM

ISOLUX DIAGRAM

Test:U:230.08V I:0.0614A P:12.785W PF:0.9054 Freq:50.00Hz Lamp Flux:981.828x1 lm		
NAME: LED Light	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Ross Gardam	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.1DEG
Operators:Wilson
Test Date:2022-11-30

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
Humidity:60.5%
Test Distance:2.617m [K=1.0000]
Remarks: File No.: WT-F-504-3206-01-A

Checker: Near Gao

Assessor: Akin Xu



ROSS GARDAM

LED Avg.L Report

Test:U:230.08V I:0.0614A P:12.785W PF:0.9054 Freq:50.00Hz Lamp Flux:981.828x1 lm		
NAME: LED Light	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Ross Gardam	SUR.:	Shielding Angle:

AvgL	cd/m2
L_0~180 (65) av	4488
L_0~180 (75) av	1244
L_0~180 (85) av	754
L_90~270 (65) av	4526
L_90~270 (75) av	1234
L_90~270 (85) av	769
L_45 (65) av	4502
L_45 (75) av	1235
L_45 (85) av	762

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.1DEG
Operators:Wilson
Test Date:2022-11-30

Checker: Near Gao

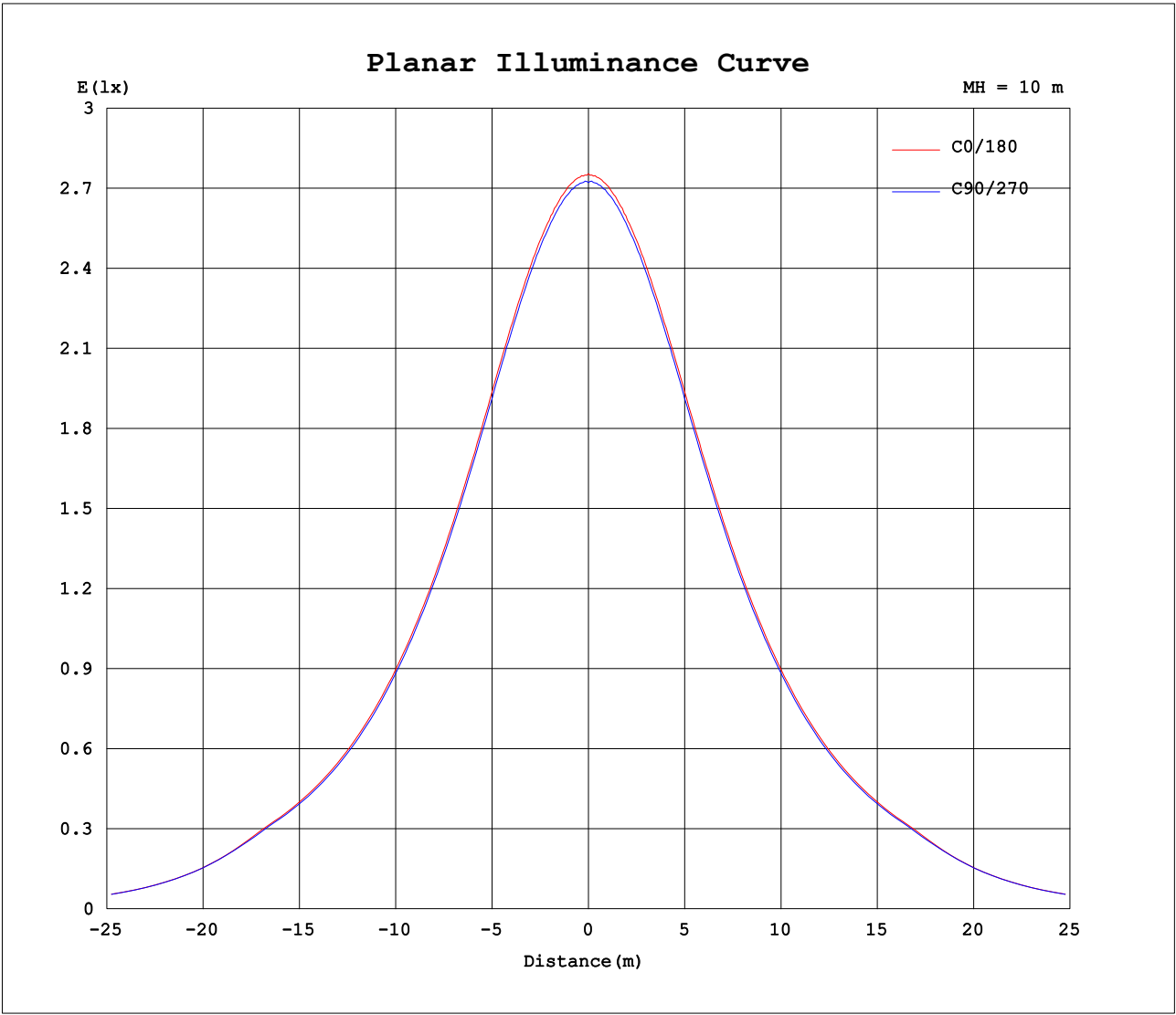
γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
Humidity:60.5%
Test Distance:2.617m [K=1.0000]
Remarks: File No.: WT-F-504-3206-01-A

Assessor: Akin Xu



ROSS GARDAM

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.1DEG
Operators:Wilson
Test Date:2022-11-30

Checker: Near Gao

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
Humidity:60.5%
Test Distance:2.617m [K=1.0000]
Remarks: File No.: WT-F-504-3206-01-A

Assessor: Akin Xu



ROSS GARDAM

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:230.08V I:0.0614A P:12.785W PF:0.9054 Freq:50.00Hz Lamp Flux:981.828x1 lm		
NAME: LED Light	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Ross Gardam	SUR.:	Shielding Angle:

Table--1

UNIT: cd

[illegible]

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.1DEG
Operators:Wilson
Test Date:2022-11-30

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
Humidity:60.5%
Test Distance:2.617m [K=1.0000]
Remarks: File No.: WT-F-504-3206-01-A

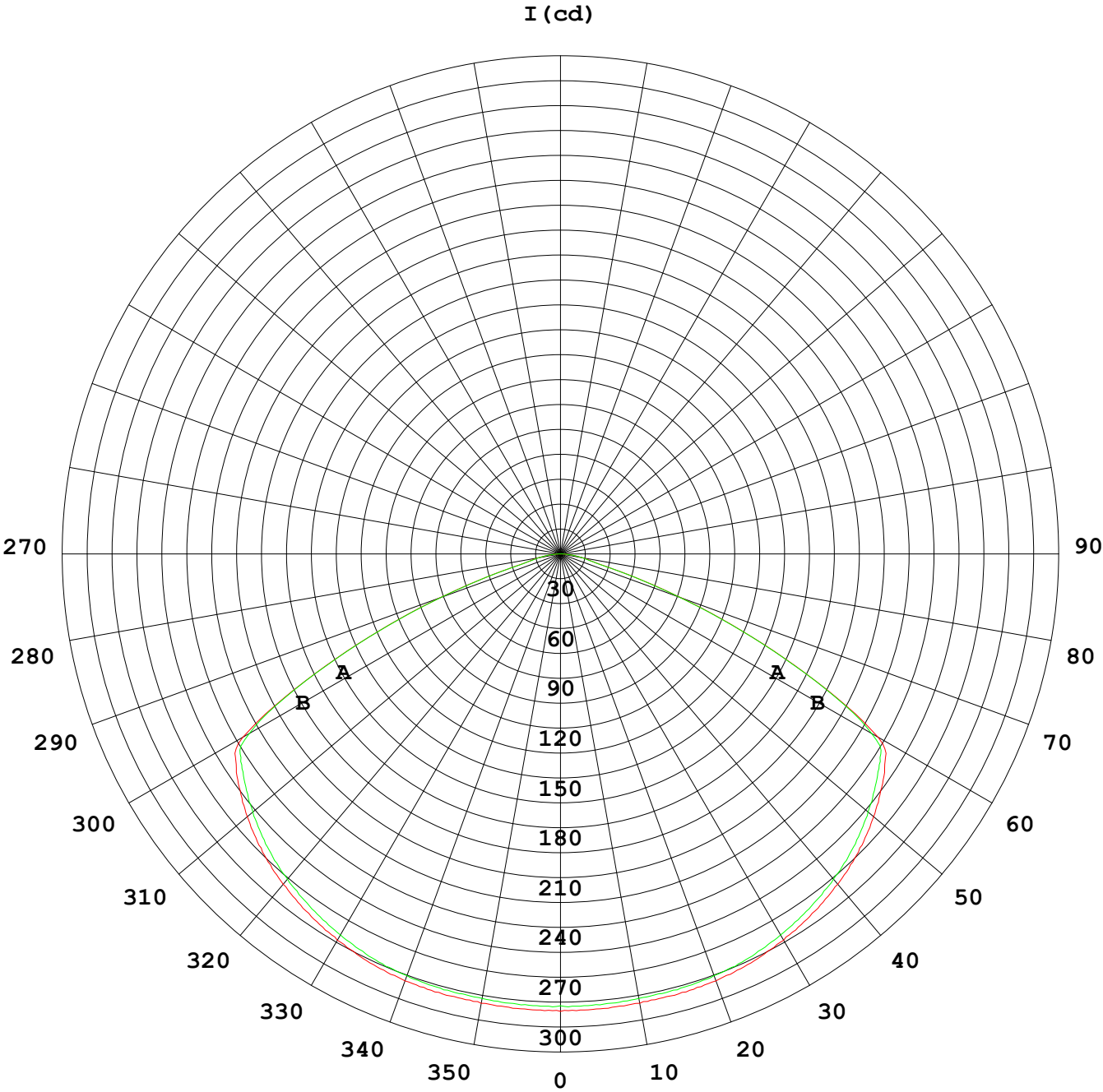
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Checker: Near Gao

Assessor: Akin Xu

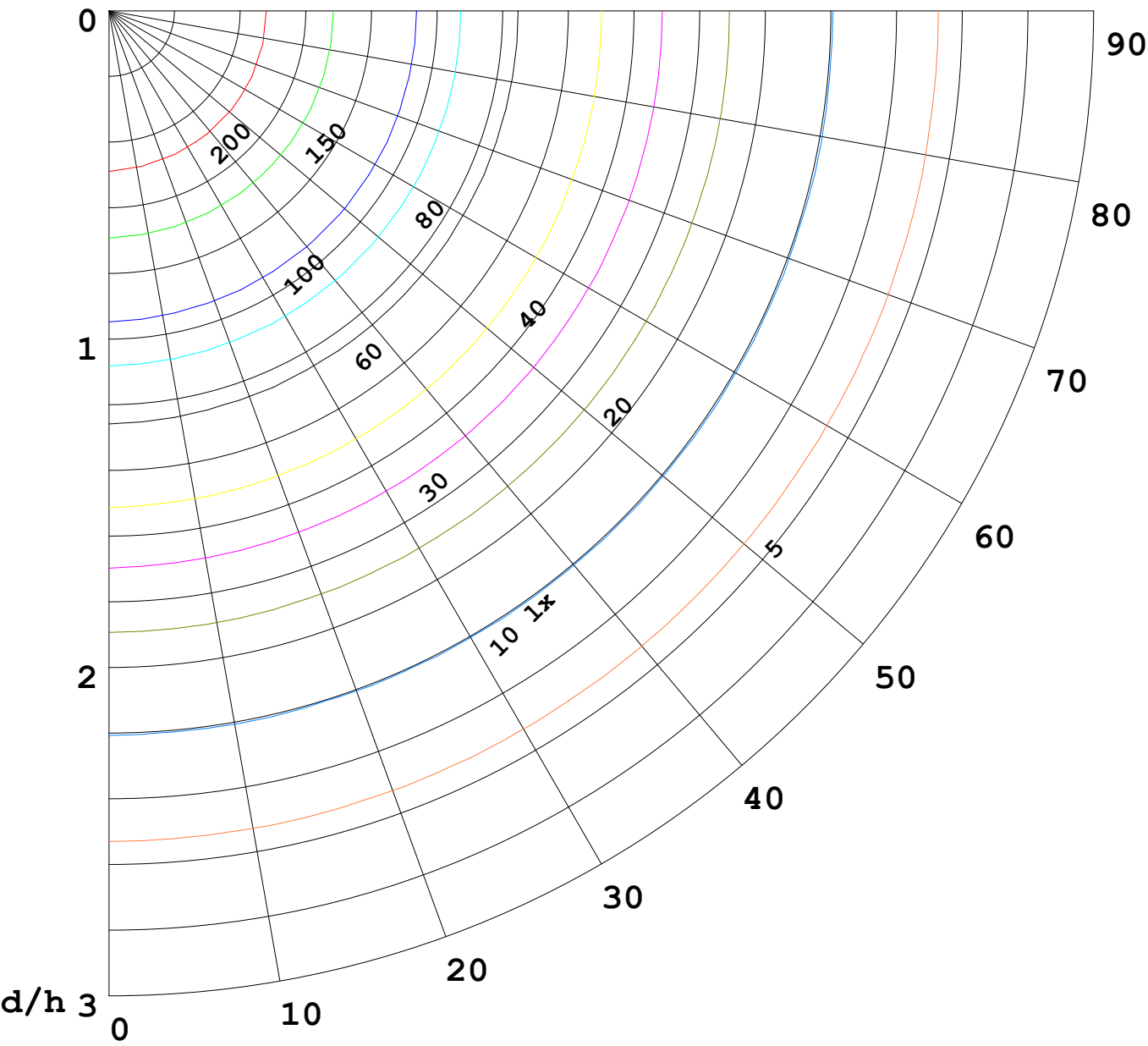


ROSS GARDAM



ROSS GARDAM

1000 lm $K = 1$



ROSS GARDAM

F = 1000 lm
K = 0.7
Hcc = 0.8 m
Hfc = 0.0 m
Eave = 100 lx

	Pcc	Pw	Pfc
—————	70	50	30
—————	50	30	20

