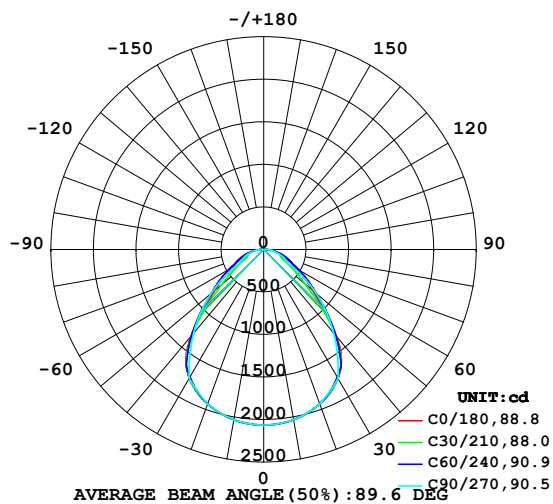


LUMINAIRE PHOTOMETRIC TEST REPORT

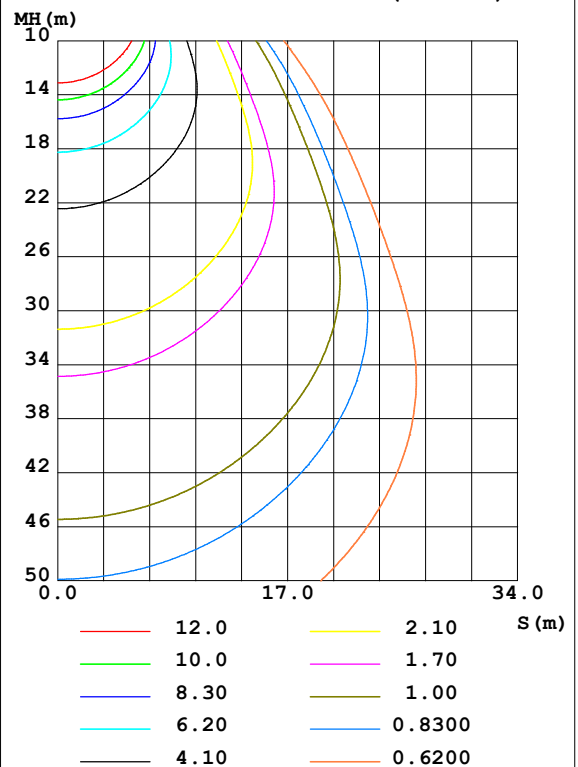
Test:U:230.3V I:0.1674A P:37.33W PF:0.9683 Freq:49.99Hz Lamp Flux:4439.95x1 lm		
NAME: P30CO-36WH-1203	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ERVAN	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 118.95 lm/W			
MODEL		I _{max} (cd)	2066	S/MH (C0/180)	1.25
NOMINAL POWER (W)	36	LOR (%)	100.0	S/MH (C90/270)	1.24
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	4440.0	η UP, DN (C0-180)	0.0, 50.0
NOMINAL FLUX (lm)	4439.95	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 50.0
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230	η down (%)	100.0	CIBSE SHR MAX	1.30

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 90DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: QC
 Test Date: 2020-12-29

γ Range: -90 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity: 53.0%
 Test Distance: 10.530m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	2034	2031	2032	2031	2034	2031	2032	2031	0- 10	195.5	195.5	4.4,4.4
20	1933	1930	1932	1930	1933	1930	1932	1930	10- 20	561.6	757.1	17.1,17.1
30	1751	1735	1751	1735	1751	1735	1751	1735	20- 30	851.2	1608	36.2,36.2
40	1331	1339	1281	1339	1331	1339	1281	1339	30- 40	970.9	2579	58.1,58.1
50	756.5	742.1	808.7	742.1	756.5	742.1	808.7	742.1	40- 50	786.3	3366	75.8,75.8
60	436.8	384.5	335.5	384.5	436.8	384.5	335.5	384.5	50- 60	493.4	3859	86.9,86.9
70	249.9	234.5	225.3	234.5	249.9	234.5	225.3	234.5	60- 70	307.6	4167	93.8,93.8
80	135.7	113.5	115.0	113.5	135.7	113.5	115.0	113.5	70- 80	201.2	4368	98.4,98.4
90	1.623	3.488	4.832	3.488	1.623	3.488	4.832	3.488	80- 90	72.26	4440	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): 3010.4 lm

%lum = 67.8%

%lamp = 67.8%

Conical surface Flux(120deg): 3858.9 lm

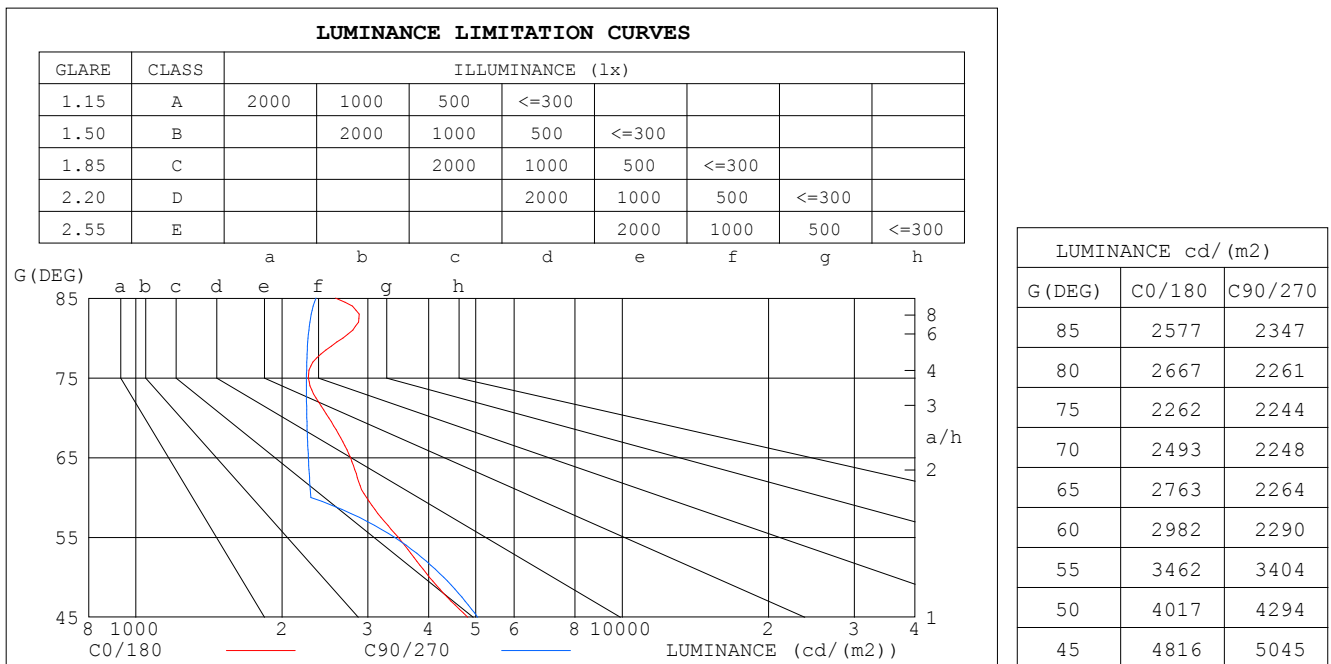
%lum = 86.9%

%lamp = 86.9%

C Range: 0 - 90DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:QC
 Test Date:2020-12-29

γ Range:-90 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:53.0%
 Test Distance:10.530m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

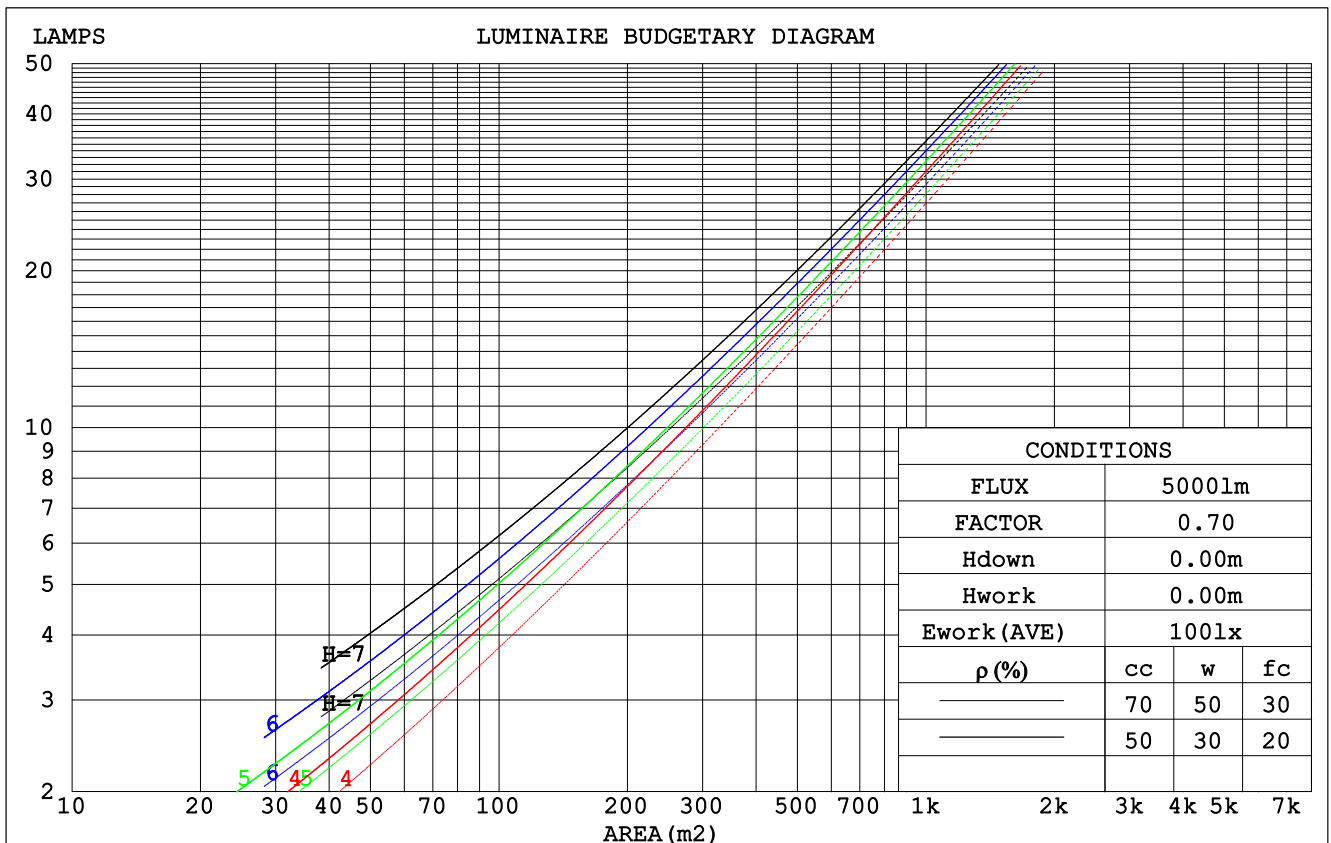


C Range: 0 - 90DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: QC
Test Date: 2020-12-29

γ Range: -90 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity: 53.0%
Test Distance: 10.530m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

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	.00
1.0	1.06	1.02	.99	1.04	1.00	.97	.99	.97	.94	.96	.93	.91	.92	.90	.89	.86
2.0	.94	.88	.83	.92	.87	.82	.89	.84	.80	.86	.82	.78	.83	.80	.77	.75
3.0	.84	.77	.71	.83	.76	.71	.80	.74	.69	.77	.72	.68	.75	.71	.67	.65
4.0	.76	.68	.62	.75	.67	.61	.72	.66	.61	.70	.64	.60	.68	.63	.59	.57
5.0	.69	.60	.54	.68	.60	.54	.65	.59	.54	.64	.58	.53	.62	.57	.53	.51
6.0	.62	.54	.48	.62	.54	.48	.60	.53	.48	.58	.52	.47	.57	.51	.47	.45
7.0	.57	.49	.43	.56	.49	.43	.55	.48	.43	.53	.47	.43	.52	.47	.42	.41
8.0	.52	.45	.39	.52	.44	.39	.51	.44	.39	.49	.43	.39	.48	.43	.38	.37
9.0	.48	.41	.36	.48	.41	.36	.47	.40	.35	.46	.40	.35	.45	.39	.35	.33
10.0	.45	.37	.33	.44	.37	.32	.43	.37	.32	.43	.36	.32	.42	.36	.32	.30



C Range: 0 - 90DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:QC
 Test Date:2020-12-29

γ Range:-90 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:53.0%
 Test Distance:10.530m [K=1.0000]
 Remarks:

WEC AND CCEC

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						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.271	.154	.049	.264	.151	.048	.251	.144	.046	.239	.138	.044	.228	.132	.043		
2.0	.256	.140	.043	.250	.138	.042	.238	.133	.041	.228	.128	.040	.218	.123	.039		
3.0	.239	.127	.038	.233	.125	.038	.223	.121	.037	.214	.117	.036	.206	.114	.035		
4.0	.222	.116	.034	.218	.114	.034	.209	.111	.033	.201	.108	.033	.193	.105	.032		
5.0	.208	.106	.031	.204	.105	.030	.196	.102	.030	.189	.099	.030	.182	.097	.029		
6.0	.194	.097	.028	.191	.096	.028	.184	.094	.027	.177	.092	.027	.171	.090	.027		
7.0	.182	.090	.026	.179	.089	.025	.173	.087	.025	.167	.086	.025	.162	.084	.025		
8.0	.172	.084	.024	.169	.083	.023	.163	.082	.023	.158	.080	.023	.153	.079	.023		
9.0	.162	.078	.022	.159	.078	.022	.154	.076	.022	.150	.075	.021	.145	.074	.021		
10.0	.153	.073	.020	.151	.073	.020	.146	.072	.020	.142	.071	.020	.138	.069	.020		

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						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.178	.156	.137	.152	.134	.118	.104	.092	.082	.060	.053	.048	.019	.017	.015	
2.0	.167	.132	.102	.143	.114	.088	.098	.079	.062	.057	.046	.036	.018	.015	.012	
3.0	.158	.114	.079	.136	.098	.068	.093	.068	.048	.054	.040	.028	.017	.013	.009	
4.0	.150	.100	.062	.129	.087	.054	.089	.060	.038	.051	.035	.023	.017	.012	.007	
5.0	.143	.090	.051	.123	.078	.044	.084	.054	.031	.049	.032	.018	.016	.010	.006	
6.0	.136	.081	.042	.117	.070	.036	.080	.049	.026	.047	.029	.015	.015	.009	.005	
7.0	.129	.074	.035	.111	.064	.031	.077	.045	.022	.045	.027	.013	.014	.009	.004	
8.0	.123	.068	.030	.106	.059	.027	.073	.042	.019	.043	.025	.011	.014	.008	.004	
9.0	.118	.063	.027	.101	.055	.023	.070	.039	.016	.041	.023	.010	.013	.007	.003	
10.0	.112	.059	.024	.097	.051	.021	.067	.036	.015	.039	.021	.009	.013	.007	.003	

C Range: 0 - 90DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:QC
Test Date:2020-12-29

γ Range:-90 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:53.0%
Test Distance:10.530m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

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	10.8	12.1	11.0	12.3	12.5	11.5	12.9	11.8	13.1	13.2
3H	11.9	13.1	12.1	13.3	13.6	12.4	13.6	12.6	13.8	14.1
4H	12.4	13.6	12.7	13.8	14.1	12.8	14.0	13.1	14.2	14.5
6H	12.9	14.0	13.2	14.3	14.5	13.2	14.3	13.5	14.5	14.8
8H	13.1	14.2	13.5	14.5	14.8	13.3	14.4	13.6	14.7	14.9
12H	13.3	14.3	13.6	14.6	14.9	13.4	14.4	13.7	14.7	15.0
4H 2H	11.1	12.3	11.4	12.5	12.8	11.7	12.9	12.0	13.2	13.4
3H	12.3	13.4	12.7	13.7	14.0	12.9	14.0	13.3	14.3	14.6
4H	13.1	14.0	13.5	14.3	14.7	13.6	14.5	14.0	14.9	15.2
6H	13.8	14.6	14.2	15.0	15.3	14.2	15.0	14.6	15.4	15.7
8H	14.1	14.9	14.5	15.3	15.6	14.4	15.2	14.8	15.5	15.9
12H	14.4	15.1	14.8	15.5	15.9	14.6	15.3	15.0	15.7	16.1
8H 4H	13.3	14.1	13.7	14.5	14.9	13.8	14.6	14.2	14.9	15.3
6H	14.2	14.9	14.6	15.3	15.7	14.6	15.2	15.0	15.6	16.1
8H	14.6	15.2	15.1	15.6	16.1	15.0	15.5	15.4	15.9	16.4
12H	15.0	15.5	15.5	15.9	16.4	15.3	15.7	15.7	16.2	16.7
12H 4H	13.4	14.1	13.8	14.5	14.9	13.8	14.5	14.2	14.9	15.3
6H	14.3	14.9	14.7	15.3	15.7	14.6	15.2	15.1	15.6	16.1
8H	14.8	15.3	15.2	15.7	16.2	15.1	15.6	15.5	16.0	16.5
Variations with the observer position at spacings:										
S = 1.0H	+ 0.4 / - 0.4					+ 0.3 / - 0.3				
1.5H	+ 0.3 / - 0.3					+ 0.1 / - 0.2				
2.0H	+ 0.8 / - 0.7					+ 0.6 / - 1.1				

CIE Pub.117, 4440 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 5.2)

C Range: 0 - 90DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:QC
Test Date:2020-12-29

γ Range:-90 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:53.0%
Test Distance:10.530m [K=1.0000]
Remarks:

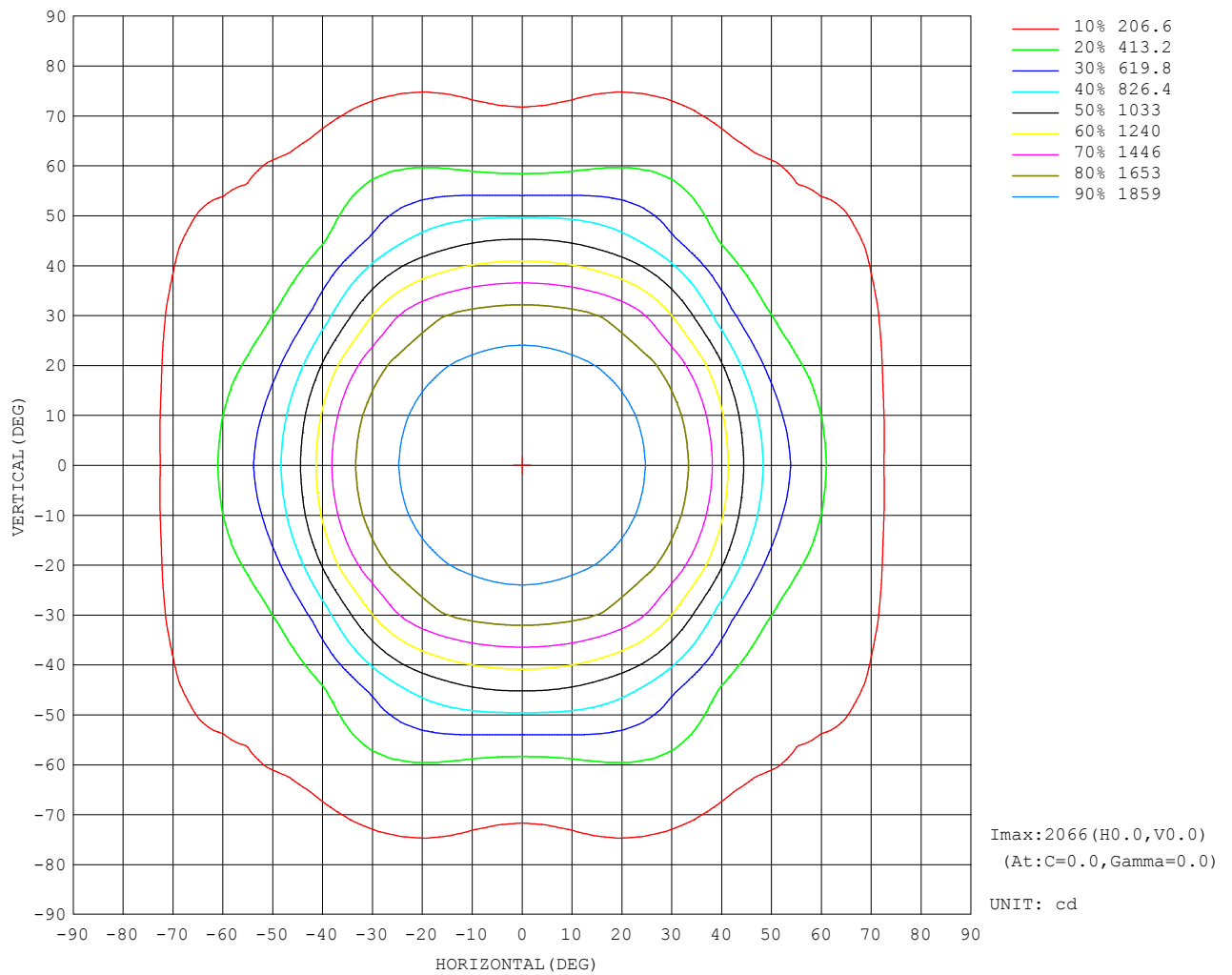
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	66	55	49	65	55	49	64	55	49	43
0.80	75	65	59	74	65	59	73	64	58	52
1.00	83	73	67	82	73	67	80	74	66	60
1.25	89	80	74	88	80	74	85	78	73	67
1.50	94	85	79	92	84	79	89	83	78	71
2.00	99	92	87	98	91	86	94	89	84	77
2.50	102	96	91	100	94	90	97	92	88	80
3.00	105	99	95	103	98	94	99	95	91	84
4.00	108	104	100	106	102	98	102	99	96	87
5.00	110	106	103	108	104	101	104	101	98	89
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 90DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: QC
 Test Date: 2020-12-29

γ Range: -90 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity: 53.0%
 Test Distance: 10.530m [K=1.0000]
 Remarks:

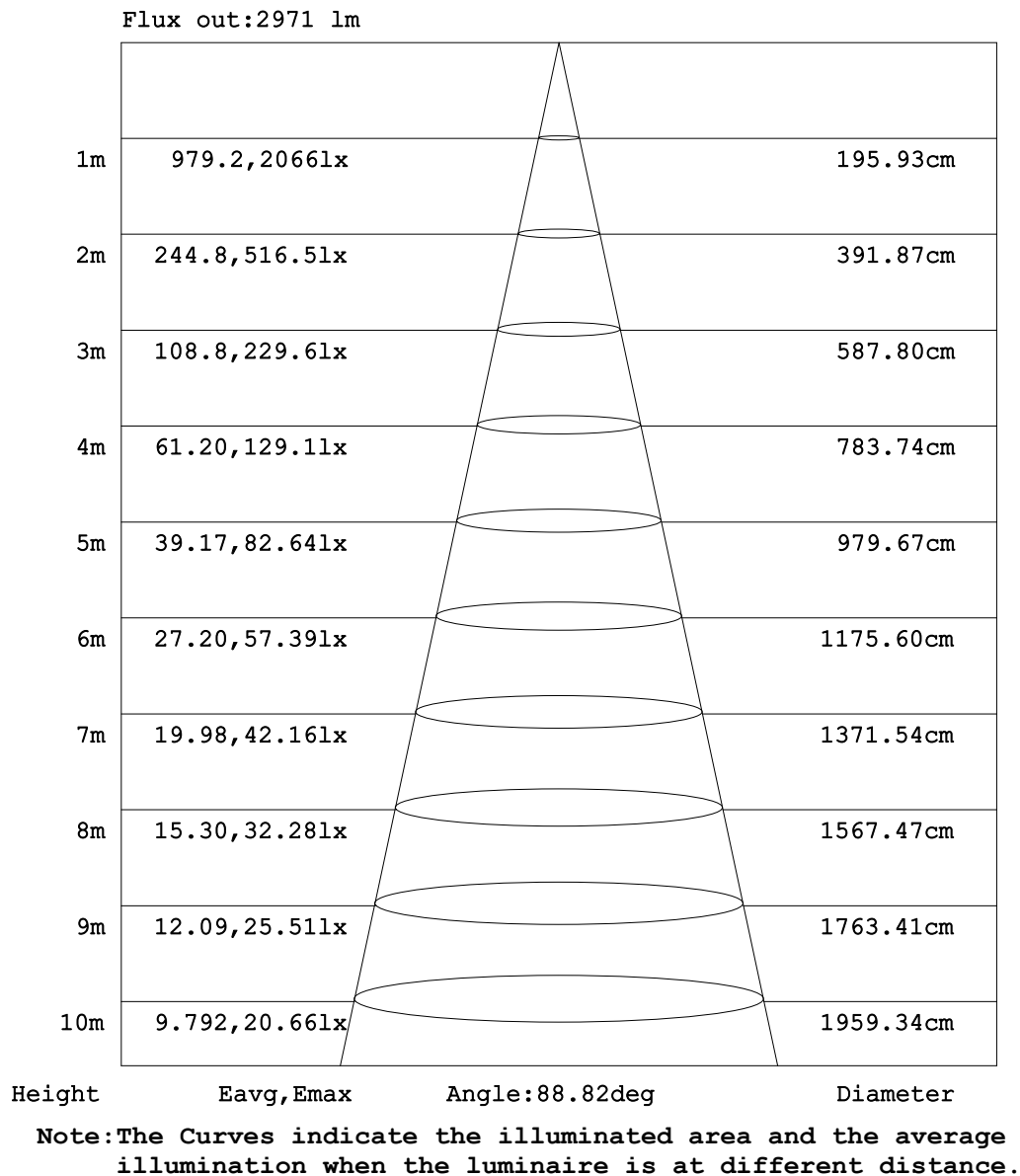
ISOCANDELA DIAGRAM



C Range: 0 - 90DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:QC
Test Date:2020-12-29

γ Range:-90 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:53.0%
Test Distance:10.530m [K=1.0000]
Remarks:

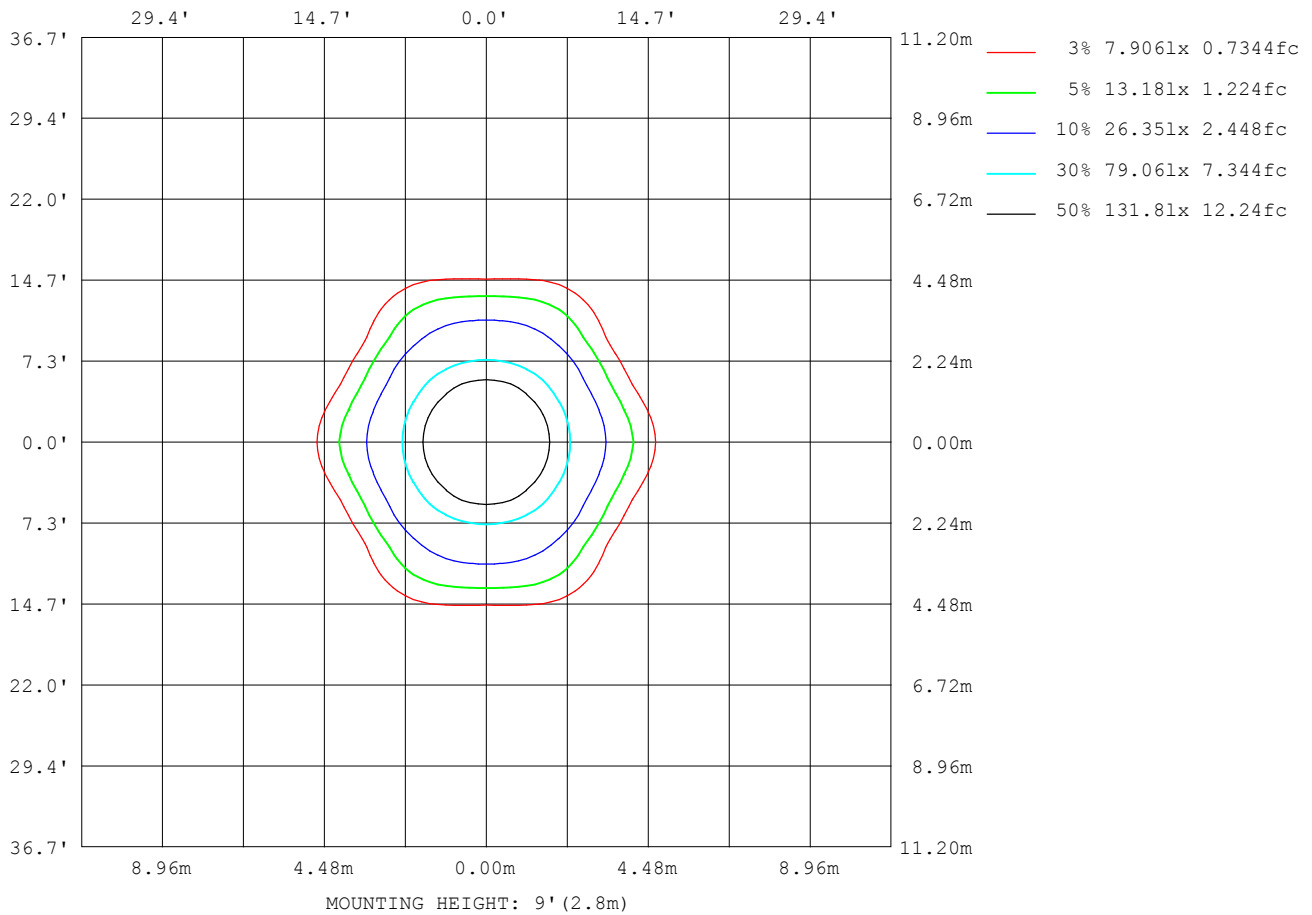
AAI Figure



C Range: 0 - 90DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:QC
 Test Date:2020-12-29

γ Range:-90 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:53.0%
 Test Distance:10.530m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM



C Range: 0 - 90DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:QC
Test Date:2020-12-29

γ Range:-90 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:53.0%
Test Distance:10.530m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:230.3V I:0.1674A P:37.33W PF:0.9683 Freq:49.99Hz Lamp Flux:4439.95x1 lm		
NAME: P30CO-36WH-1203	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ERVAN	SUR.:	Shielding Angle:

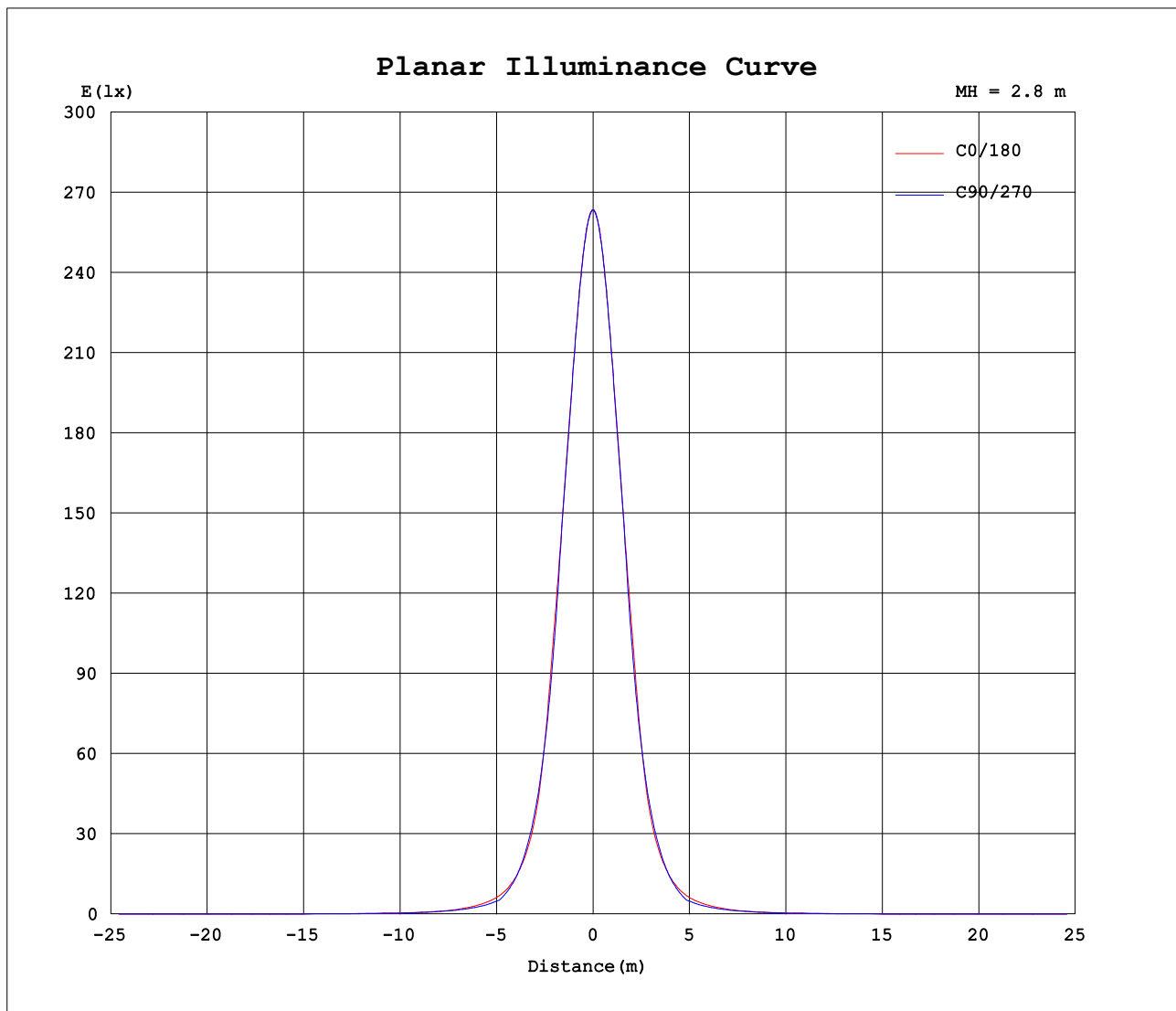
AvgL	cd/m2
L_0~180 (65) av	2763
L_0~180 (75) av	2262
L_0~180 (85) av	2577
L_90~270 (65) av	2264
L_90~270 (75) av	2244
L_90~270 (85) av	2347
L_45 (65) av	2433
L_45 (75) av	2262
L_45 (85) av	2271

Standard: GB/T 29293-2012

C Range: 0 - 90DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:QC
 Test Date:2020-12-29

γ Range:-90 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:53.0%
 Test Distance:10.530m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 90DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: QC
Test Date: 2020-12-29

γ Range: -90 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity: 53.0%
Test Distance: 10.530m [K=1.0000]
Remarks:

Table--1

UNIT: cd

C Range: 0 - 90DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:QC
Test Date:2020-12-29

```

γ Range:-90 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:53.0%
Test Distance:10.530m [K=1.0000]
Remarks:

```

Table--2

UNIT: cd

C Range: 0 - 90DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:QC
Test Date:2020-12-29

```

γ Range:-90 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:53.0%
Test Distance:10.530m [K=1.0000]
Remarks:

```

Table--3

UNIT: cd

C Range: 0 - 90DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:QC
Test Date:2020-12-29

```

γ Range:-90 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:53.0%
Test Distance:10.530m [K=1.0000]
Remarks:

```

Table--4

UNIT: cd

C Range: 0 - 90DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:QC
Test Date:2020-12-29

```

γ Range:-90 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:53.0%
Test Distance:10.530m [K=1.0000]
Remarks:

```


[illegible]

```

√ Range:-90 - 90DEG
√ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:53.0%
Test Distance:10.530m [K=1.0000]
Remarks:

```

[illegible]

```

γ Range:-90 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:53.0%
Test Distance:10.530m [K=1.0000]
Remarks:

```

[illegible]

```

γ Range:-90 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:53.0%
Test Distance:10.530m [K=1.0000]
Remarks:

```

[illegible]

```

γ Range:-90 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:53.0%
Test Distance:10.530m [K=1.0000]
Remarks:

```