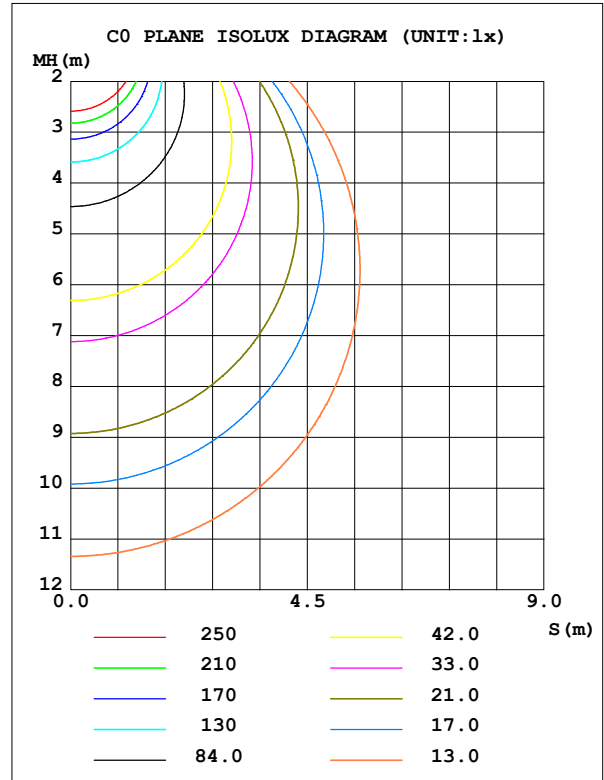
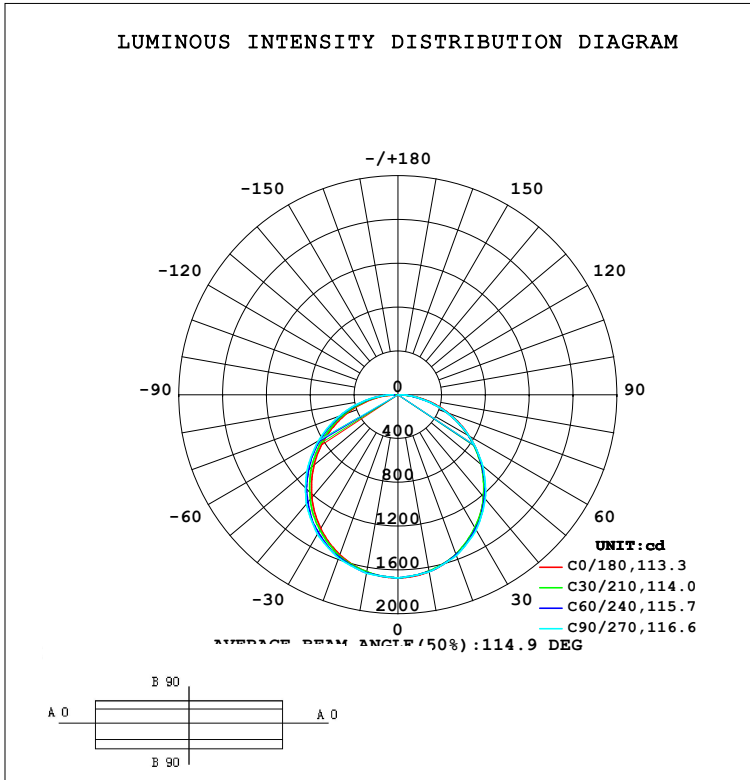


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:230.12V I:0.1936A P:43.325W PF:0.9724 Freq:49.99Hz Lamp Flux:4978.97x1 lm		
NAME: PANEL	TYPE:SKU- 2160246	WEIGHT:
SPEC.:CCT- 4000K	DIM.:	SERIAL No.:
MFR.: V-TAC EUROPE LTD	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	VT-6060	I _{max} (cd)	1672	S/MH (C0/180)	1.25
NOMINAL POWER (W)	40	LOR (%)	100.0	S/MH (C90/270)	1.30
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	4979.0	η UP, DN (C0-180)	0.0, 48.6
NOMINAL FLUX (lm)	4978.97	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 51.4
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230.2	η down (%)	100.0	CIBSE SHR MAX	1.35



H (β) Range:-90 - 90DEG
H (β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:eng. LASKOV
Test Date:08 July 2022

V(B) Range:-90 - 90DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.407.13
Humidity:65.0%
Test Distance:9.420m [K=1.0000]
Remarks: Kpuls = 0.28 %
PST- 0.022
SVM- 0.009

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

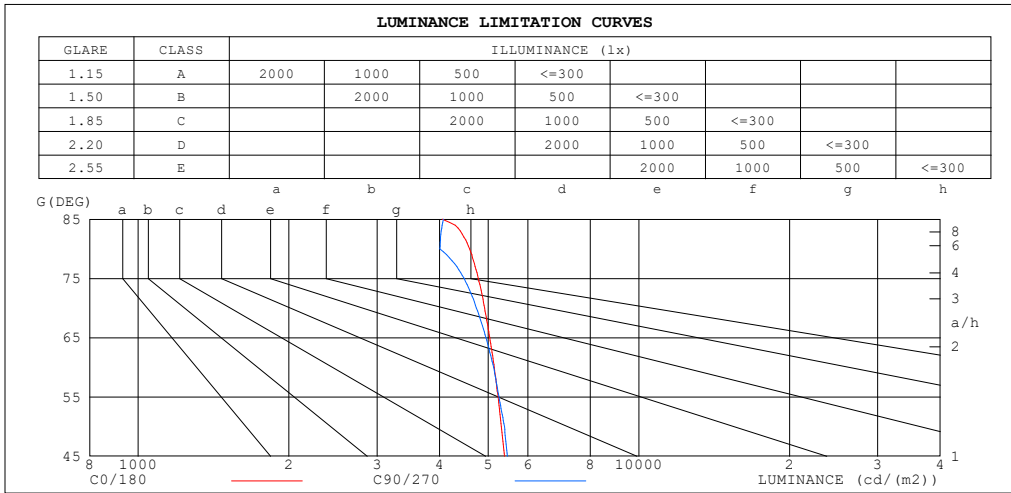
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	1641	1635	1642	1636	1642	1645	1654	1644	0- 10	157.9	157.9	3.17,3.17
20	1551	1548	1562	1549	1554	1568	1588	1565	10- 20	453.7	611.6	12.3,12.3
30	1408	1410	1429	1412	1411	1441	1471	1438	20- 30	690.9	1303	26.2,26.2
40	1219	1223	1243	1227	1224	1267	1302	1261	30- 40	838.2	2141	43,43
50	996.2	996.5	1011	999.3	1001	1050	1086	1046	40- 50	876.3	3017	60.6,60.6
60	749.9	740.5	747.8	744.6	752.3	804.0	836.1	798.8	50- 60	802.6	3820	76.7,76.7
70	490.8	474.0	472.8	474.9	494.0	539.5	567.6	538.4	60- 70	632.4	4452	89.4,89.4
80	232.6	207.6	202.9	208.9	237.3	276.1	298.3	275.0	70- 80	394.5	4847	97.3,97.3
90	3.023	4.088	4.132	3.853	5.305	22.29	42.54	20.87	80- 90	132.4	4979	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		

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:eng. LASKOV
Test Date:08 July 2022

V(B) Range:-90 - 90DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000A_v1 SYSTEM V2.0.407.13
Humidity:65.0%
Test Distance:9.420m [K=1.0000]
Remarks: Kpuls = 0.28 %
PST- 0.022
SVM- 0.009

LUMINANCE LIMITATION CURVES

Test:U:230.12V I:0.1936A P:43.325W PF:0.9724 Freq:49.99Hz Lamp Flux:4978.97x1 lm		
NAME: PANEL	TYPE:SKU- 2160246	WEIGHT:
SPEC.:CCT- 4000K	DIM.:	SERIAL No.:
MFR.: V-TAC EUROPE LTD	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	4048	4073
80	4593	4007
75	4777	4477
70	4921	4741
65	5036	4952
60	5143	5129
55	5234	5257
50	5315	5392
45	5391	5465

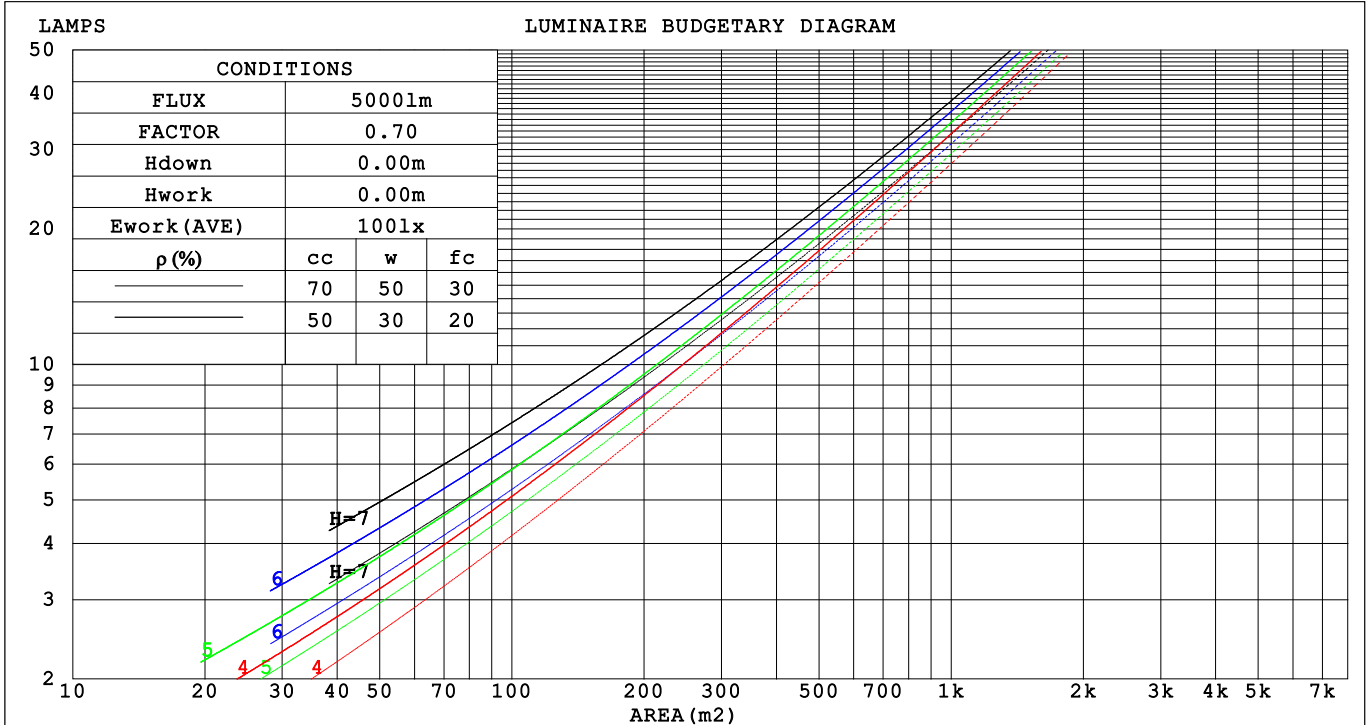
H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:eng. LASKOV
Test Date:08 July 2022

V(B) Range:-90 - 90DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000A_v1 SYSTEM V2.0.407.13
Humidity:65.0%
Test Distance:9.420m [K=1.0000]
Remarks: Kpuls = 0.28 %
PST- 0.022
SVM- 0.009

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.12V I:0.1936A P:43.325W PF:0.9724 Freq:49.99Hz Lamp Flux:4978.97x1 lm		
NAME: PANEL	TYPE:SKU- 2160246	WEIGHT:
SPEC.:CCT- 4000K	DIM.:	SERIAL No.:
MFR.: V-TAC EUROPE LTD	SUR.:	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pw																
pfc																
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	1.03	.99	.95	1.01	.97	.93	.97	.93	.90	.93	.90	.87	.89	.87	.85	.83
2.0	.89	.82	.76	.88	.81	.76	.84	.78	.74	.81	.76	.72	.78	.74	.70	.68
3.0	.78	.70	.63	.77	.69	.63	.74	.67	.61	.71	.65	.60	.68	.63	.59	.57
4.0	.69	.60	.53	.68	.59	.53	.65	.58	.52	.63	.57	.51	.61	.55	.51	.48
5.0	.62	.53	.46	.61	.52	.45	.58	.51	.45	.56	.50	.44	.55	.49	.44	.42
6.0	.56	.46	.40	.55	.46	.40	.53	.45	.39	.51	.44	.39	.49	.43	.39	.36
7.0	.50	.41	.35	.49	.41	.35	.48	.40	.35	.46	.40	.34	.45	.39	.34	.32
8.0	.46	.37	.31	.45	.37	.31	.44	.36	.31	.43	.36	.31	.41	.35	.31	.29
9.0	.42	.34	.28	.41	.33	.28	.40	.33	.28	.39	.32	.28	.38	.32	.28	.26
10.0	.39	.31	.25	.38	.31	.25	.37	.30	.25	.36	.30	.25	.35	.29	.25	.23



H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:eng. LASKOV
Test Date:08 July 2022

V(B) Range:-90 - 90DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000A_v1 SYSTEM V2.0.407.13
Humidity:65.0%
Test Distance:9.420m [K=1.0000]
Remarks: Kpuls = 0.28 %
PST- 0.022
SVM- 0.009

WEC AND CCEC

Test:U:230.12V I:0.1936A P:43.325W PF:0.9724 Freq:49.99Hz Lamp Flux:4978.97x1 lm		
NAME: PANEL	TYPE:SKU- 2160246	WEIGHT:
SPEC.:CCT- 4000K	DIM.:	SERIAL No.:
MFR.: V-TAC EUROPE LTD	SUR.:	Shielding Angle:

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.324	.184	.058	.317	.181	.057	.303	.174	.056	.291	.168	.054	.280	.162	.052	
2.0	.301	.165	.051	.295	.162	.050	.283	.157	.049	.272	.153	.048	.262	.148	.047	
3.0	.277	.147	.044	.271	.145	.044	.261	.141	.043	.251	.138	.042	.242	.134	.041	
4.0	.254	.132	.039	.249	.130	.039	.240	.127	.038	.231	.124	.037	.223	.121	.037	
5.0	.234	.119	.035	.230	.118	.034	.222	.115	.034	.214	.113	.034	.207	.111	.033	
6.0	.217	.109	.031	.213	.108	.031	.206	.105	.031	.199	.103	.030	.192	.101	.030	
7.0	.201	.100	.028	.198	.099	.028	.191	.097	.028	.185	.095	.028	.180	.093	.027	
8.0	.188	.092	.026	.185	.091	.026	.179	.089	.026	.173	.088	.025	.168	.086	.025	
9.0	.176	.085	.024	.173	.084	.024	.168	.083	.024	.163	.082	.023	.158	.080	.023	
10.0	.165	.079	.022	.163	.079	.022	.158	.077	.022	.153	.076	.022	.149	.075	.022	

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{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	.181	.156	.133	.155	.134	.115	.106	.092	.079	.061	.053	.046	.020	.017	.015	
2.0	.173	.132	.097	.149	.114	.084	.102	.079	.058	.059	.046	.034	.019	.015	.011	
3.0	.166	.114	.073	.142	.099	.064	.098	.069	.045	.056	.040	.026	.018	.013	.009	
4.0	.158	.101	.058	.136	.087	.050	.093	.061	.035	.054	.036	.021	.017	.012	.007	
5.0	.151	.091	.047	.129	.079	.041	.089	.055	.029	.052	.032	.017	.017	.011	.006	
6.0	.143	.082	.039	.123	.071	.034	.085	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.136	.076	.033	.117	.065	.029	.081	.046	.020	.047	.027	.012	.015	.009	.004	
8.0	.130	.070	.028	.112	.060	.025	.077	.042	.018	.045	.025	.010	.015	.008	.003	
9.0	.124	.065	.025	.107	.056	.022	.074	.040	.015	.043	.023	.009	.014	.008	.003	
10.0	.118	.060	.022	.102	.053	.019	.070	.037	.014	.041	.022	.008	.013	.007	.003	

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:eng. LASKOV
Test Date:08 July 2022

V(B) Range:-90 - 90DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000A_v1 SYSTEM V2.0.407.13
Humidity:65.0%
Test Distance:9.420m [K=1.0000]
Remarks: Kpuls = 0.28 %
PST- 0.022
SVM- 0.009

UGR(Unified Glare Rating) Table

Test:U:230.12V I:0.1936A P:43.325W PF:0.9724 Freq:49.99Hz Lamp Flux:4978.97x1 lm										
NAME: PANEL				TYPE:SKU- 2160246				WEIGHT:		
SPEC.:CCT- 4000K				DIM.:				SERIAL No.:		
MFR.: V-TAC EUROPE LTD				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	12.9	14.4	13.2	14.7	14.9	13.0	14.5	13.2	14.7	14.9
3H	14.5	16.0	14.8	16.2	16.4	14.5	16.0	14.8	16.2	16.4
4H	15.2	16.6	15.5	16.8	17.1	15.2	16.5	15.5	16.8	17.0
6H	15.8	17.1	16.1	17.3	17.6	15.6	16.9	16.0	17.2	17.5
8H	15.9	17.2	16.3	17.5	17.8	15.8	17.0	16.1	17.3	17.6
12H	16.0	17.2	16.4	17.5	17.8	15.9	17.1	16.3	17.4	17.7
4H 2H	13.5	14.9	13.8	15.1	15.4	13.6	14.9	13.9	15.2	15.4
3H	15.3	16.5	15.7	16.8	17.1	15.3	16.5	15.7	16.8	17.1
4H	16.2	17.3	16.5	17.6	17.9	16.1	17.2	16.5	17.5	17.8
6H	16.8	17.8	17.2	18.2	18.5	16.7	17.7	17.1	18.0	18.4
8H	17.1	18.0	17.5	18.3	18.7	16.9	17.8	17.3	18.2	18.6
12H	17.2	18.0	17.6	18.4	18.8	17.1	17.9	17.5	18.3	18.7
8H 4H	16.4	17.4	16.9	17.7	18.1	16.4	17.3	16.8	17.7	18.1
6H	17.3	18.0	17.7	18.4	18.9	17.1	17.9	17.6	18.3	18.7
8H	17.6	18.3	18.0	18.7	19.1	17.4	18.1	17.9	18.5	19.0
12H	17.8	18.4	18.2	18.8	19.3	17.7	18.3	18.2	18.8	19.2
12H 4H	16.5	17.3	16.9	17.7	18.1	16.4	17.2	16.8	17.6	18.0
6H	17.3	18.0	17.8	18.4	18.9	17.2	17.9	17.7	18.3	18.7
8H	17.7	18.3	18.2	18.7	19.2	17.5	18.1	18.0	18.6	19.1
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.2					+ 0.1 / - 0.2				
1.5H	+ 0.1 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.3				

CIE Pub.117, 4979 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 5.6)
 Area: 0.2916 m2

H(β) Range:-90 - 90DEG
 H(β) Interval: 1.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:eng. LASKOV
 Test Date:08 July 2022

V(B) Range:-90 - 90DEG
 V(B) Interval: 5.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.407.13
 Humidity:65.0%
 Test Distance:9.420m [K=1.0000]
 Remarks: Kpuls = 0.28 %
 PST- 0.022
 SVM- 0.009

UTILIZATION FACTORS TABLE

Test:U:230.12V I:0.1936A P:43.325W PF:0.9724 Freq:49.99Hz Lamp Flux:4978.97x1 lm		
NAME: PANEL	TYPE:SKU- 2160246	WEIGHT:
SPEC.:CCT- 4000K	DIM.:	SERIAL No.:
MFR.: V-TAC EUROPE LTD	SUR.:	Shielding Angle:

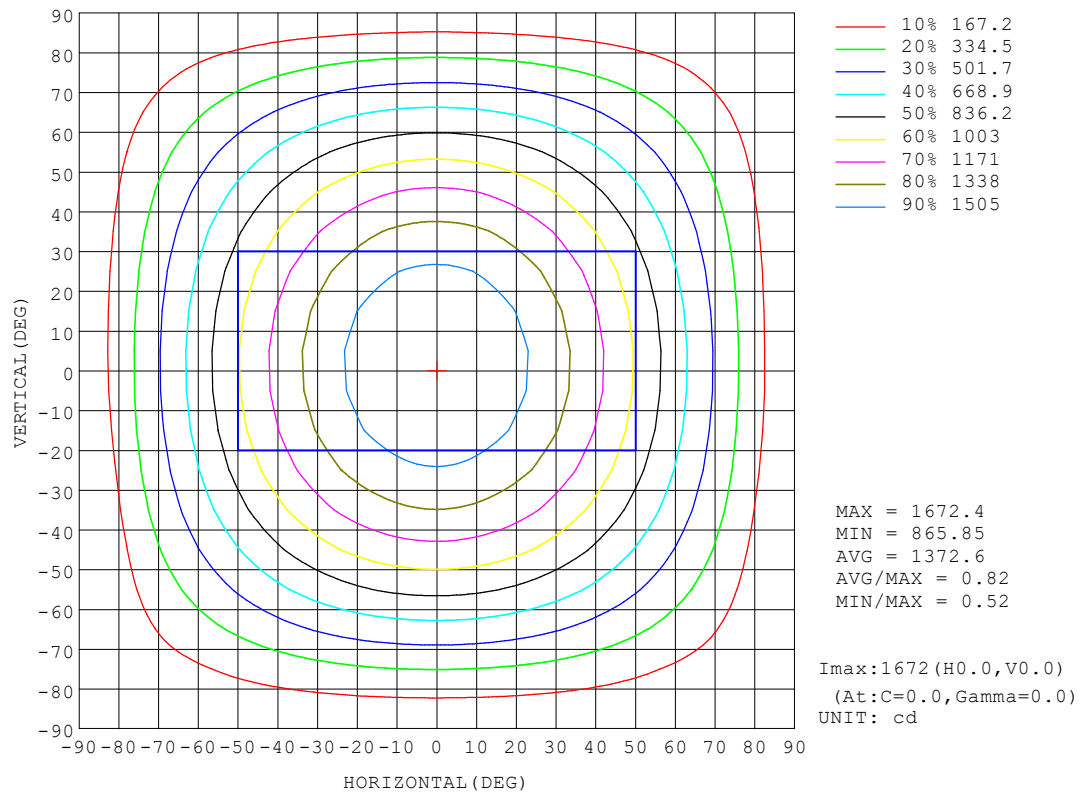
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	57	45	38	56	45	38	55	44	38	31
0.80	67	55	47	66	54	47	64	54	47	40
1.00	75	64	56	74	63	56	71	64	55	48
1.25	82	71	64	81	71	64	78	69	63	55
1.50	87	77	70	85	76	69	82	74	68	60
2.00	94	85	79	92	84	78	89	82	76	68
2.50	98	90	84	96	89	83	92	86	81	72
3.00	101	94	89	99	93	88	95	90	85	77
4.00	106	100	95	103	98	93	99	94	91	82
5.00	108	103	99	106	101	97	101	97	94	85
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:eng. LASKOV
Test Date:08 July 2022

V(B) Range:-90 - 90DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000A_v1 SYSTEM V2.0.407.13
Humidity:65.0%
Test Distance:9.420m [K=1.0000]
Remarks: Kpuls = 0.28 %
PST- 0.022
SVM- 0.009

ISOCANDELA DIAGRAM

Test:U:230.12V I:0.1936A P:43.325W PF:0.9724 Freq:49.99Hz Lamp Flux:4978.97x1 lm		
NAME: PANEL	TYPE:SKU- 2160246	WEIGHT:
SPEC.:CCT- 4000K	DIM.:	SERIAL No.:
MFR.: V-TAC EUROPE LTD	SUR.:	Shielding Angle:

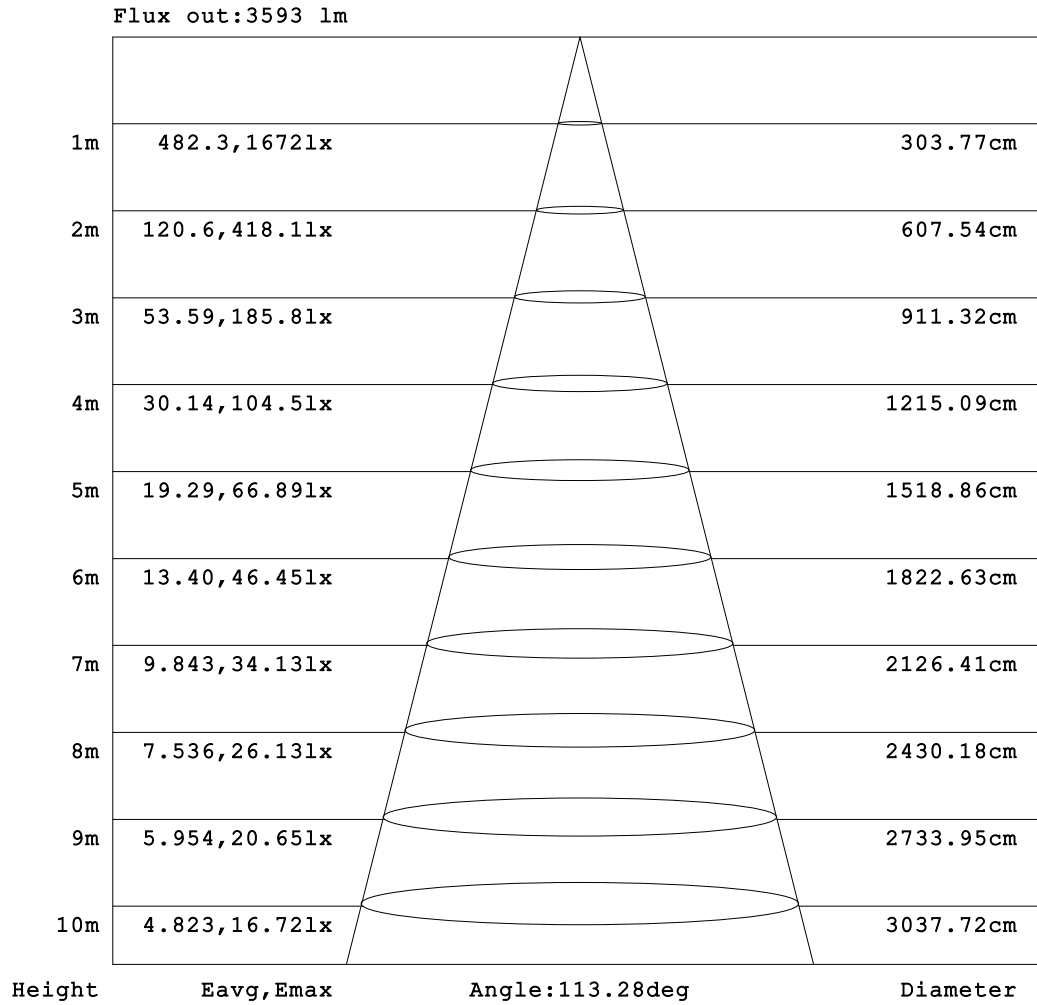


H(β) Range:-90 - 90DEG
 H(β) Interval: 1.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:eng. LASKOV
 Test Date:08 July 2022

V(B) Range:-90 - 90DEG
 V(B) Interval: 5.0DEG
 Test System:EVERFINE GO-2000A_v1 SYSTEM V2.0.407.13
 Humidity:65.0%
 Test Distance:9.420m [K=1.0000]
 Remarks: K_{puls} = 0.28 %
 PST- 0.022
 SVM- 0.009

AAI Figure

Test:U:230.12V I:0.1936A P:43.325W PF:0.9724 Freq:49.99Hz Lamp Flux:4978.97x1 lm		
NAME: PANEL	TYPE:SKU- 2160246	WEIGHT:
SPEC.:CCT- 4000K	DIM.:	SERIAL No.:
MFR.: V-TAC EUROPE LTD	SUR.:	Shielding Angle:



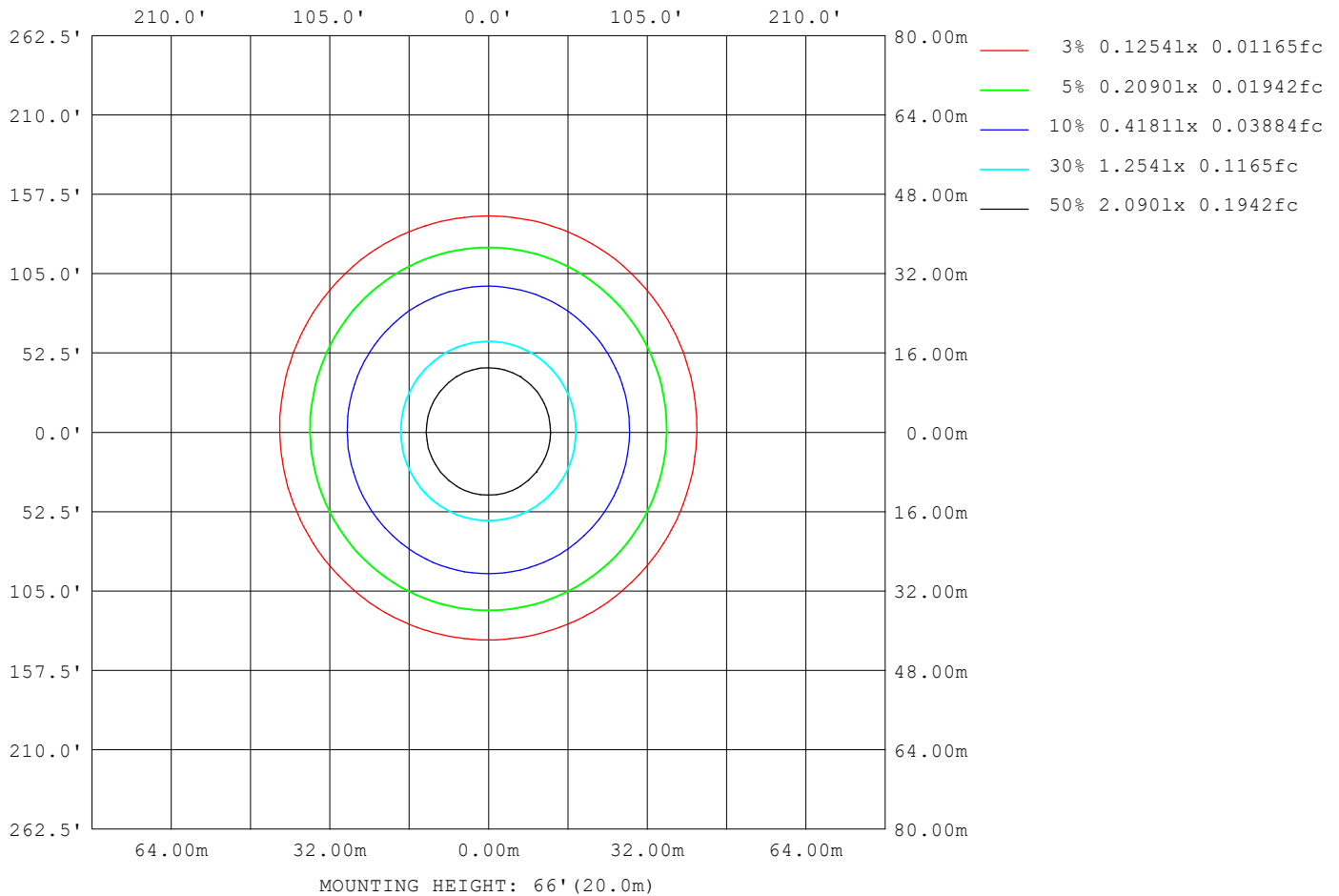
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:eng. LASKOV
Test Date:08 July 2022

V(B) Range:-90 - 90DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.407.13
Humidity:65.0%
Test Distance:9.420m [K=1.0000]
Remarks: Kpuls = 0.28 %
PST- 0.022
SVM- 0.009

ISOLUX DIAGRAM

Test:U:230.12V I:0.1936A P:43.325W PF:0.9724 Freq:49.99Hz Lamp Flux:4978.97x1 lm		
NAME: PANEL	TYPE:SKU- 2160246	WEIGHT:
SPEC.:CCT- 4000K	DIM.:	SERIAL No.:
MFR.: V-TAC EUROPE LTD	SUR.:	Shielding Angle:



H(β) Range:-90 - 90DEG
 H(β) Interval: 1.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:eng. LASKOV
 Test Date:08 July 2022

V(B) Range:-90 - 90DEG
 V(B) Interval: 5.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.407.13
 Humidity:65.0%
 Test Distance:9.420m [K=1.0000]
 Remarks: Kpuls = 0.28 %
 PST- 0.022
 SVM- 0.009

LED Avg.L Report

Test:U:230.12V I:0.1936A P:43.325W PF:0.9724 Freq:49.99Hz Lamp Flux:4978.97x1 lm		
NAME: PANEL	TYPE:SKU- 2160246	WEIGHT:
SPEC.:CCT- 4000K	DIM.:	SERIAL No.:
MFR.: V-TAC EUROPE LTD	SUR.:	Shielding Angle:

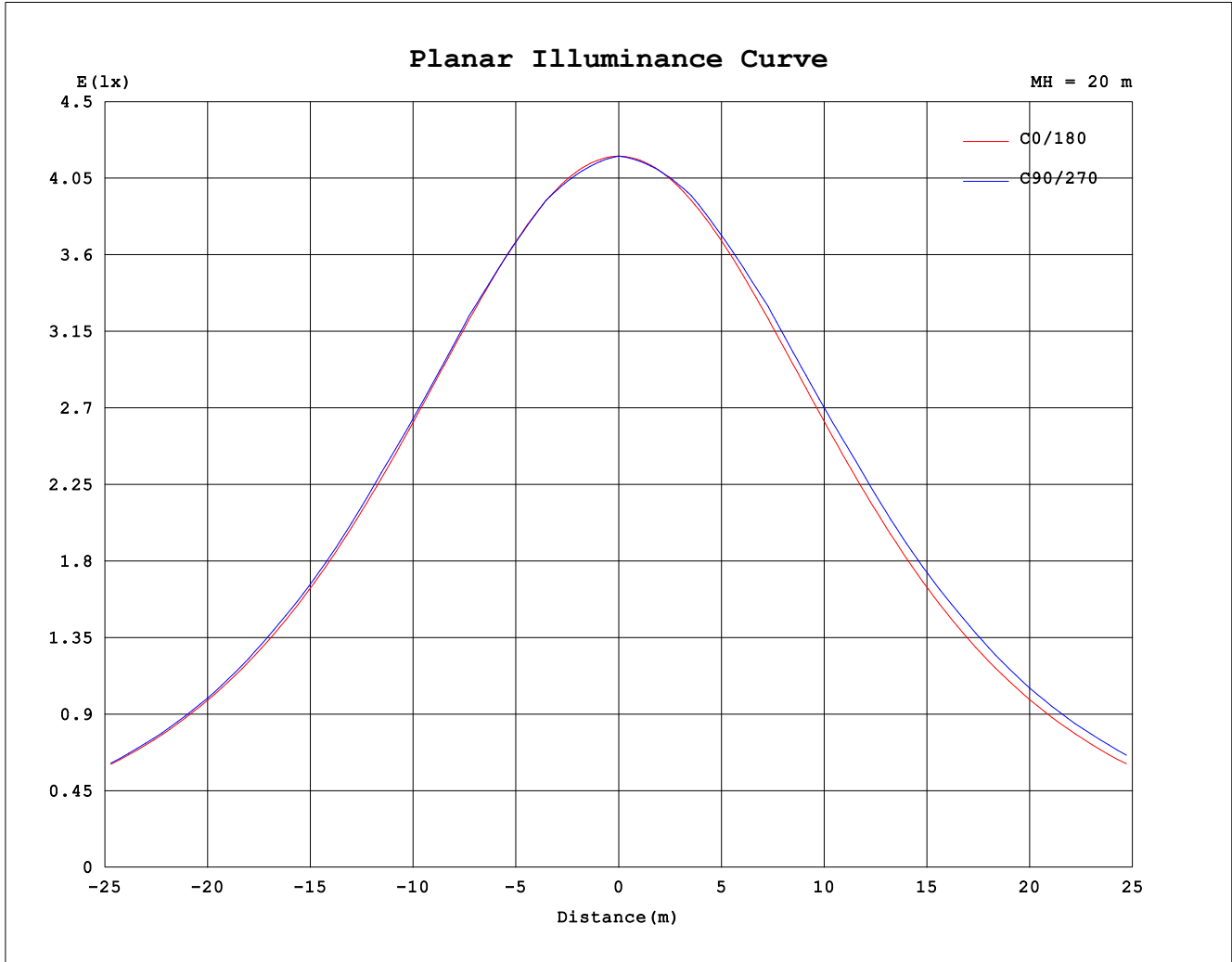
AvgL	cd/m2
L_0~180 (65) av	5047
L_0~180 (75) av	4804
L_0~180 (85) av	4045
L_90~270 (65) av	5324
L_90~270 (75) av	5107
L_90~270 (85) av	5390
L_45 (65) av	5187
L_45 (75) av	4952
L_45 (85) av	4750

Standard: GB/T 29293-2012

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:eng. LASKOV
Test Date:08 July 2022

V(B) Range:-90 - 90DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000A_v1 SYSTEM V2.0.407.13
Humidity:65.0%
Test Distance:9.420m [K=1.0000]
Remarks: Kpuls = 0.28 %
PST- 0.022
SVM- 0.009

Planar Illuminance Curve



H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:eng. LASKOV
Test Date:08 July 2022

V(B) Range:-90 - 90DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000A_v1 SYSTEM V2.0.407.13
Humidity:65.0%
Test Distance:9.420m [K=1.0000]
Remarks: Kpuls = 0.28 %
PST- 0.022
SVM- 0.009

