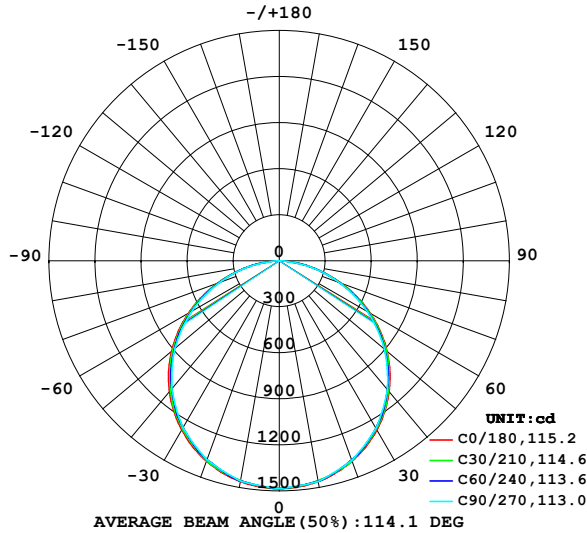


## LUMINAIRE PHOTOMETRIC TEST REPORT

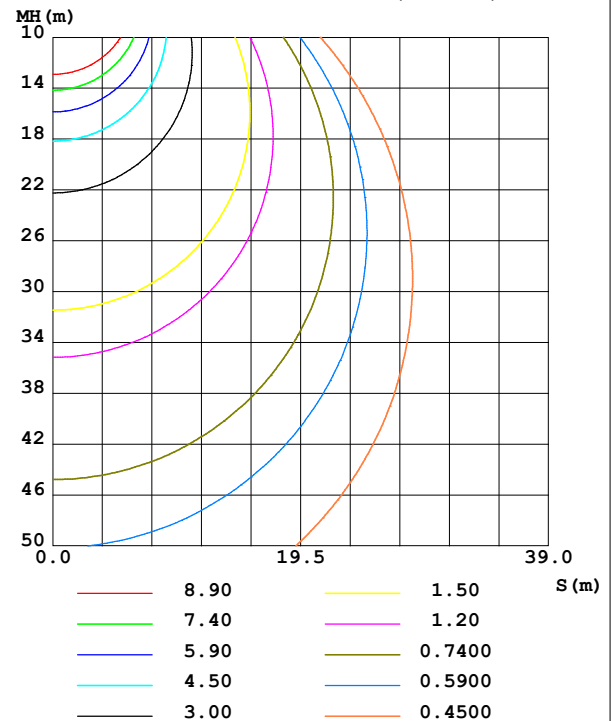
NAME: 99XPanel021W	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 1196 x 255	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	99XPanel021W	Imax(cd)	1485	S/MH(C0/180)	1.27
NOMINAL POWER(W)	48	LOR(%)	99.4	S/MH(C90/270)	1.25
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	4294.7	$\eta$ UP,DN(C0-180)	0.0,49.8
NOMINAL FLUX(lm)	4320	CIE CLASS	DIRECT	$\eta$ UP,DN(C180-360)	0.0,49.6
LAMPS INSIDE	1	$\eta$ up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	230	$\eta$ down (%)	99.4	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:08 September 2022

V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
Humidity:65.0%  
Test Distance:6.265m [K=1.0000]  
Remarks:

### ZONAL FLUX DIAGRAM

#### ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	1460	1455	1460	1454	1461	1453	1457	1454	0- 10	140.1	140.1	3.26, 3.24
20	1388	1381	1383	1380	1389	1378	1380	1379	10- 20	402.0	542.1	12.6, 12.5
30	1273	1264	1261	1263	1272	1259	1256	1260	20- 30	611.6	1154	26.9, 26.7
40	1113	1105	1096	1104	1113	1099	1089	1100	30- 40	741.7	1895	44.1, 43.9
50	916.1	905.7	895.3	905.4	915.6	901.4	887.9	899.9	40- 50	774.8	2670	62.2, 61.8
60	685.4	675.3	664.4	673.8	682.9	670.3	658.5	669.4	50- 60	705.2	3375	78.6, 78.1
70	429.7	422.8	414.8	421.9	428.1	419.9	410.3	417.9	60- 70	541.0	3916	91.2, 90.7
80	177.8	179.1	172.0	178.7	177.7	180.3	173.1	177.7	70- 80	312.5	4229	98.5, 97.9
90	2.368	0	0	0	2.698	0	0	0	80- 90	65.91	4295	100, 99.4
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): 2285.1 lm

%lum = 53.2%  
%lamp = 52.9%

Conical surface Flux(130deg): 3671.5 lm

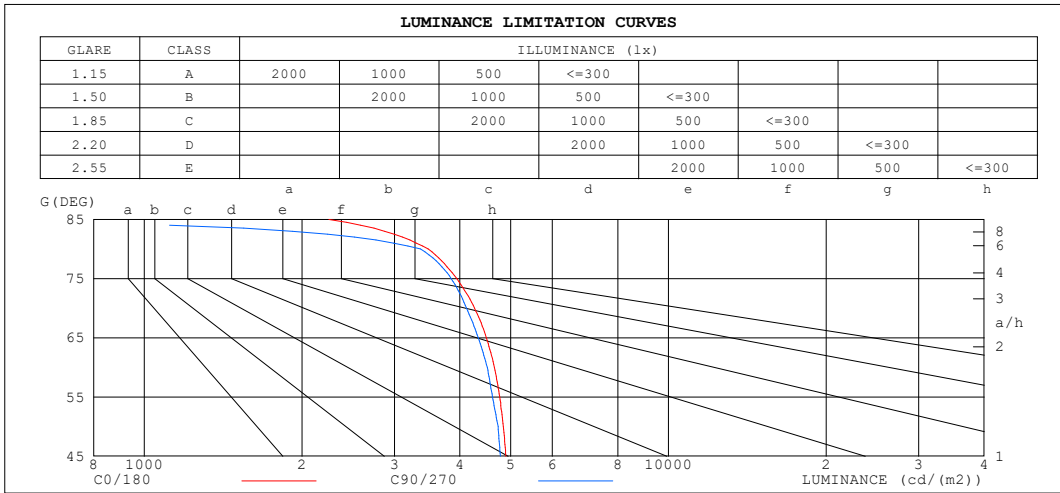
%lum = 85.5%  
%lamp = 85.0%

H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:08 September 2022

V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
Humidity:65.0%  
Test Distance:6.265m [K=1.0000]  
Remarks:

### LUMINANCE LIMITATION CURVES

NAME: 99XPanel021W	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 1196 x 255	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	2249	0
80	3477	3364
75	3944	3849
70	4266	4117
65	4492	4335
60	4654	4512
55	4762	4616
50	4839	4729
45	4895	4781

H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:08 September 2022

V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
Humidity:65.0%  
Test Distance:6.265m [K=1.0000]  
Remarks:

V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
Humidity:65.0%  
Test Distance:6.265m [K=1.0000]  
Remarks:

## WEC AND CCEC

NAME: 99XPanel021W	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 1196 x 255	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle	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						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.307	.175	.055	.300	.171	.054	.287	.164	.053	.275	.158	.051	.263	.153	.049	
2.0	.290	.159	.049	.284	.157	.048	.273	.152	.047	.262	.147	.046	.252	.142	.045	
3.0	.269	.143	.043	.264	.141	.043	.253	.137	.042	.244	.134	.041	.235	.130	.040	
4.0	.249	.129	.038	.244	.128	.038	.235	.124	.037	.226	.121	.037	.218	.119	.036	
5.0	.230	.117	.034	.226	.116	.034	.217	.113	.033	.210	.111	.033	.203	.108	.033	
6.0	.213	.107	.031	.209	.106	.030	.202	.104	.030	.195	.101	.030	.189	.100	.030	
7.0	.198	.098	.028	.195	.097	.028	.188	.095	.027	.182	.094	.027	.177	.092	.027	
8.0	.185	.090	.025	.182	.090	.025	.176	.088	.025	.171	.087	.025	.166	.085	.025	
9.0	.174	.084	.023	.171	.083	.023	.166	.082	.023	.161	.081	.023	.156	.079	.023	
10.0	.163	.078	.022	.161	.078	.022	.156	.076	.022	.152	.075	.021	.147	.074	.021	

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	.189	.189	.189	.162	.162	.162	.110	.110	.110	.063	.063	.063	.020	.020	.020	
1.0	.179	.155	.134	.153	.133	.115	.105	.092	.080	.060	.053	.046	.019	.017	.015	
2.0	.171	.131	.097	.147	.113	.084	.101	.078	.059	.058	.045	.034	.019	.015	.011	
3.0	.164	.114	.074	.140	.098	.064	.096	.068	.045	.056	.040	.026	.018	.013	.009	
4.0	.156	.100	.058	.134	.087	.050	.092	.060	.035	.053	.035	.021	.017	.012	.007	
5.0	.149	.090	.047	.128	.078	.041	.088	.054	.029	.051	.032	.017	.016	.010	.006	
6.0	.142	.082	.039	.122	.071	.034	.084	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.135	.075	.033	.116	.065	.029	.080	.046	.020	.047	.027	.012	.015	.009	.004	
8.0	.128	.069	.028	.111	.060	.025	.076	.042	.018	.045	.025	.010	.014	.008	.003	
9.0	.122	.064	.025	.105	.056	.022	.073	.039	.015	.043	.023	.009	.014	.008	.003	
10.0	.117	.060	.022	.101	.052	.019	.070	.037	.014	.041	.022	.008	.013	.007	.003	

H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:08 September 2022

V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
Humidity:65.0%  
Test Distance:6.265m [K=1.0000]  
Remarks:

## UGR(Unified Glare Rating) Table

NAME: 99XPanel021W					TYPE:			WEIGHT: 1			
SPEC.:					DIM.: 1196 x 255			SERIAL No.: 0			
MFR.: Elmark Industries JSC					SUR.: regtangle			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	13.3	14.8	13.6	15.0	15.2	13.1	14.7	13.4	14.9	15.1
	3H	14.8	16.3	15.1	16.5	16.7	14.7	16.1	15.0	16.3	16.6
	4H	15.5	16.8	15.8	17.1	17.3	15.3	16.6	15.6	16.9	17.1
	6H	15.9	17.1	16.2	17.4	17.7	15.7	17.0	16.1	17.3	17.5
	8H	16.0	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	15.8	16.9	16.1	17.2	17.5
4H	2H	13.9	15.2	14.2	15.5	15.8	13.8	15.1	14.1	15.4	15.6
	3H	15.6	16.8	16.0	17.1	17.4	15.5	16.7	15.8	17.0	17.3
	4H	16.4	17.5	16.7	17.8	18.1	16.2	17.3	16.6	17.6	18.0
	6H	16.9	17.9	17.3	18.2	18.6	16.8	17.7	17.2	18.1	18.5
	8H	17.1	18.0	17.5	18.3	18.7	16.9	17.8	17.3	18.2	18.5
	12H	17.1	18.0	17.6	18.3	18.8	16.9	17.7	17.3	18.1	18.5
8H	4H	16.6	17.5	17.1	17.9	18.3	16.5	17.4	16.9	17.8	18.2
	6H	17.3	18.1	17.8	18.5	18.9	17.2	18.0	17.7	18.4	18.8
	8H	17.6	18.2	18.0	18.6	19.1	17.4	18.0	17.8	18.5	18.9
	12H	17.7	18.3	18.2	18.7	19.2	17.4	18.0	17.9	18.4	18.9
12H	4H	16.6	17.5	17.1	17.9	18.3	16.5	17.3	17.0	17.7	18.1
	6H	17.4	18.0	17.8	18.5	18.9	17.3	17.9	17.7	18.4	18.8
	8H	17.7	18.2	18.1	18.7	19.2	17.5	18.0	18.0	18.5	19.0
Variations with the observer position at spacings(CIE Pub.117):											
S = 1.0H	+ 0.1 / - 0.2					+ 0.1 / - 0.2					
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3					
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3					

CIE Pub.117, 4320 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 5.1)  
Area: 0.294525 m2

H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:08 September 2022

V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
Humidity:65.0%  
Test Distance:6.265m [K=1.0000]  
Remarks:

### UTILIZATION FACTORS TABLE

NAME: 99XPanel021W	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 1196 x 255	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle	Shielding Angle:

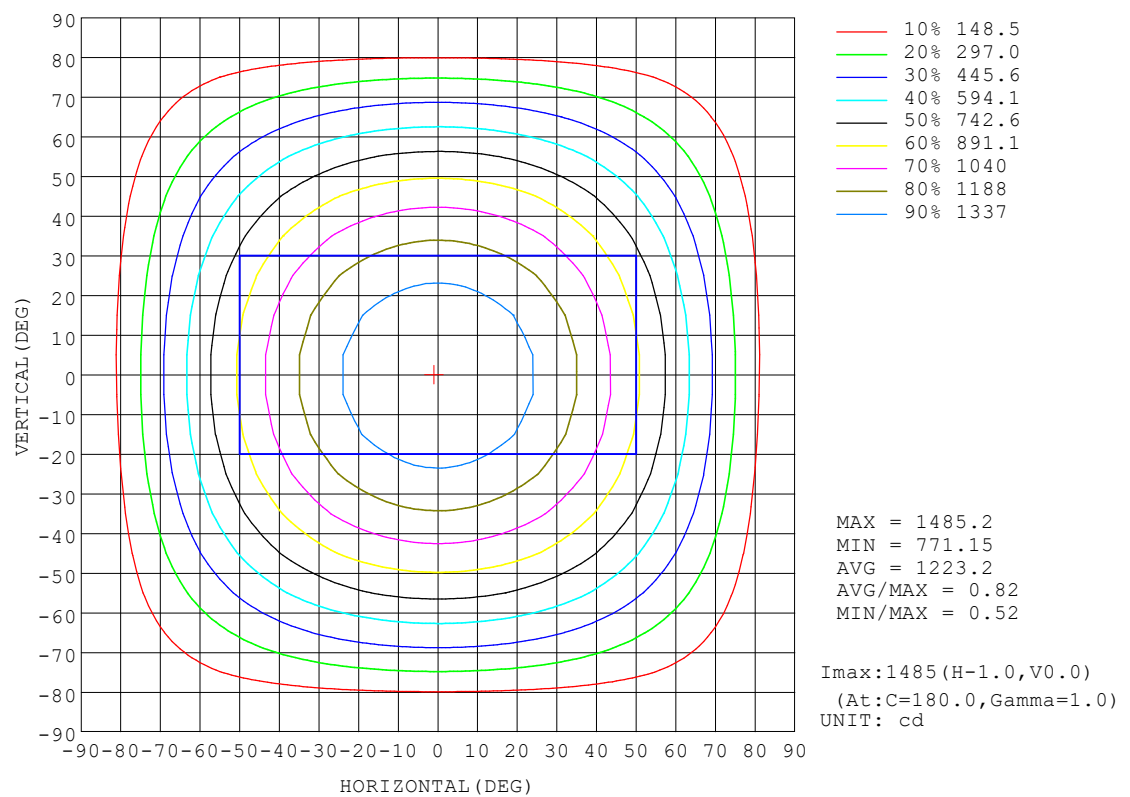
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	57	45	38	56	45	38	55	45	38	32
0.80	67	55	48	66	55	48	64	54	47	40
1.00	75	64	57	74	64	57	72	65	56	49
1.25	82	72	65	81	71	64	78	70	64	56
1.50	87	78	71	86	77	70	83	75	69	61
2.00	94	86	79	92	85	79	89	82	77	69
2.50	98	90	84	96	89	84	92	86	82	73
3.00	102	95	89	99	93	88	95	90	86	78
4.00	106	100	95	103	98	94	99	95	91	83
5.00	108	103	99	106	101	98	101	98	95	86
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:08 September 2022

V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
Humidity:65.0%  
Test Distance:6.265m [K=1.0000]  
Remarks:

### ISOCANDELA DIAGRAM

NAME: 99XPanel1021W	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 1196 x 255	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle	Shielding Angle:



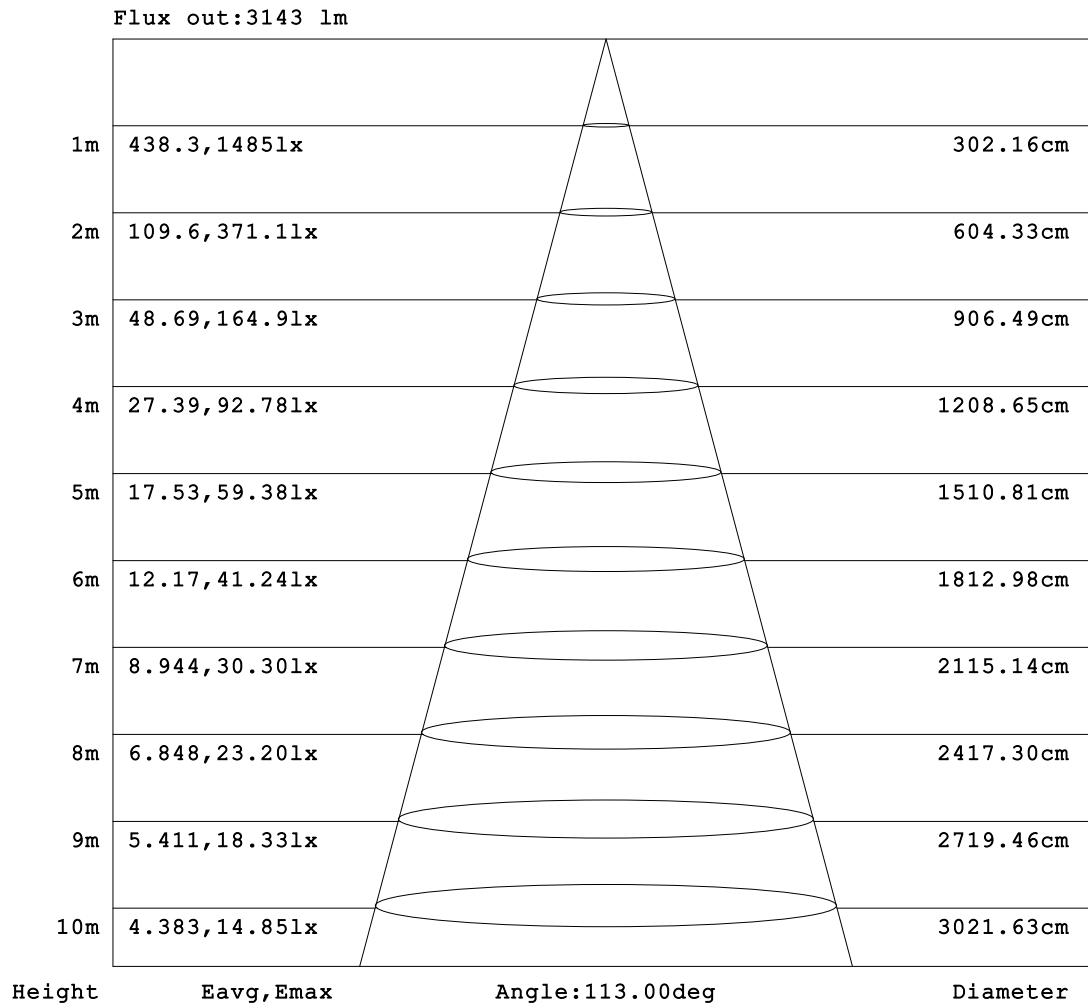
H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:08 September 2022

V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
Humidity:65.0%  
Test Distance:6.265m [K=1.0000]  
Remarks:



**AAI Figure**

NAME: 99XPanel021W	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 1196 x 255	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle	Shielding Angle:



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

 H( $\beta$ ) Range:-90 - 90DEG

 H( $\beta$ ) Interval: 1.0DEG

Test Speed: MEDIUM

Temperature:25.3°C

Operators:

Test Date:08 September 2022

V(B) Range:-80 - 80DEG

V(B) Interval: 5.0DEG

Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.456

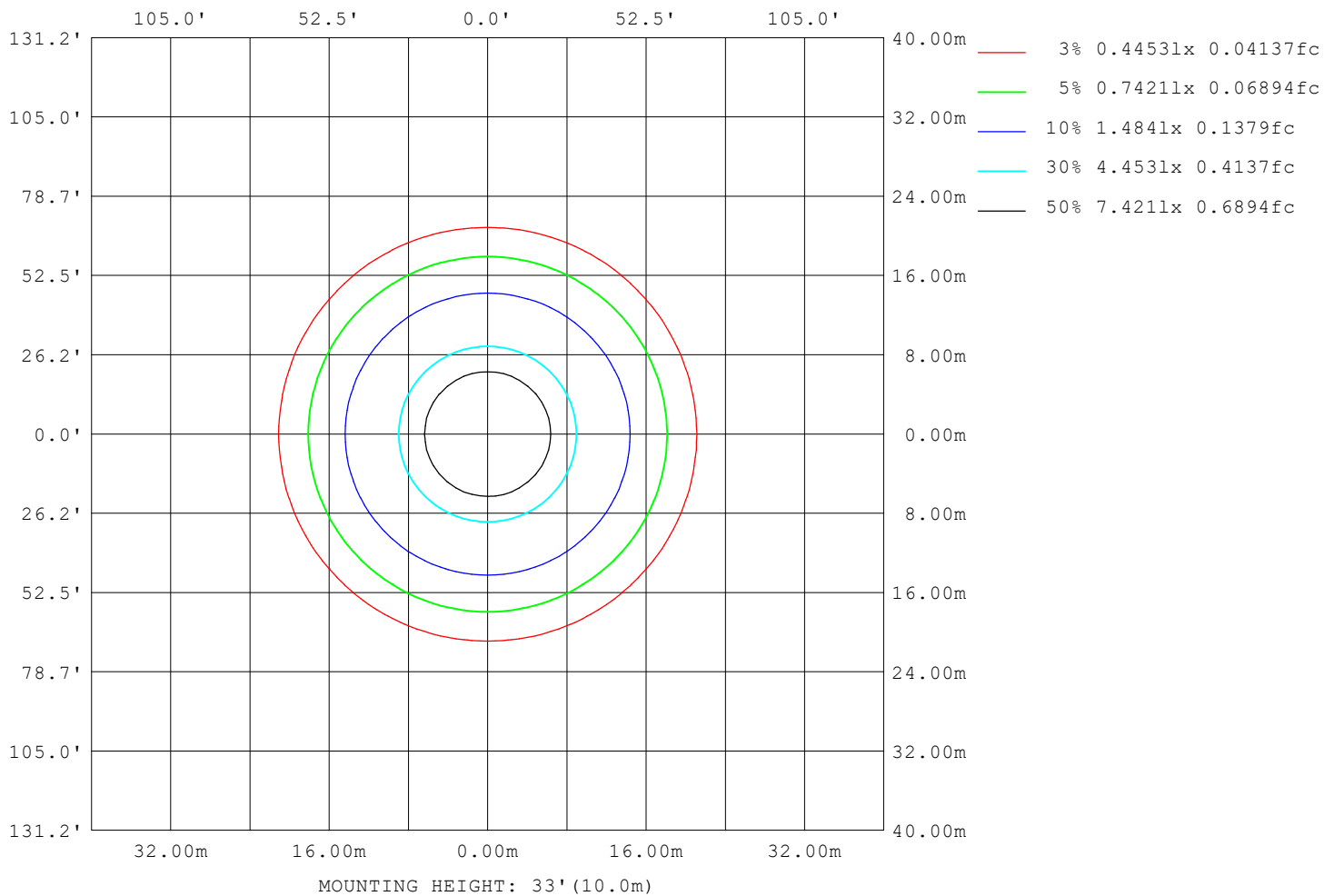
Humidity:65.0%

Test Distance:6.265m [K=1.0000]

Remarks:

### ISOLUX DIAGRAM

NAME: 99XPanel1021W	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 1196 x 255	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle	Shielding Angle:



H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:08 September 2022

V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
Humidity:65.0%  
Test Distance:6.265m [K=1.0000]  
Remarks:

### LED Avg.L Report

NAME: 99XPanel021W	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 1196 x 255	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle	Shielding Angle:

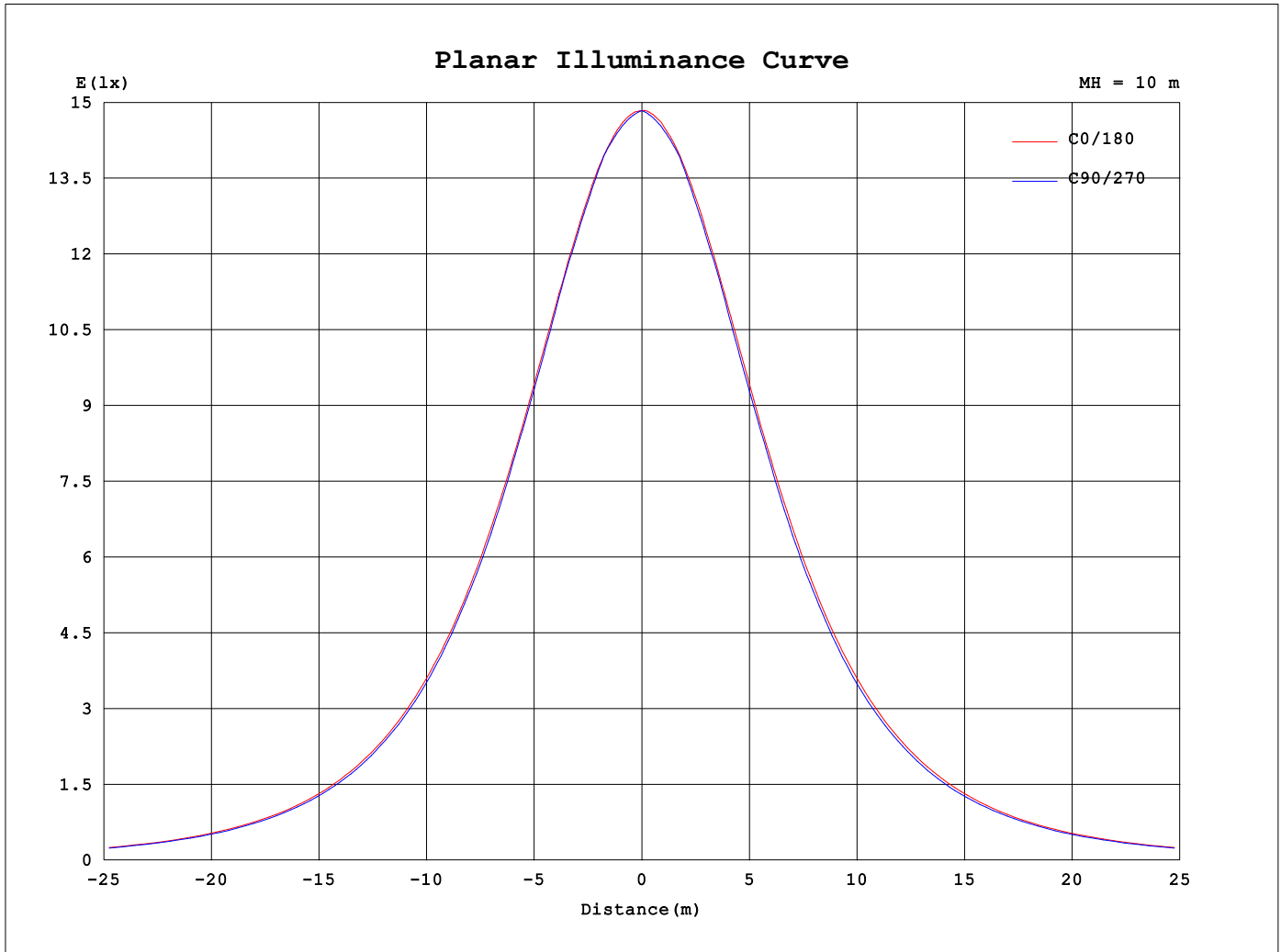
AvgL	cd/m2
L_0~180 (65) av	4486
L_0~180 (75) av	3935
L_0~180 (85) av	2265
L_90~270 (65) av	4314
L_90~270 (75) av	3838
L_90~270 (85) av	0
L_45 (65) av	4392
L_45 (75) av	3859
L_45 (85) av	1816

Standard: GB/T 29293-2012

H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:08 September 2022

V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
Humidity:65.0%  
Test Distance:6.265m [K=1.0000]  
Remarks:

# Planar Illuminance Curve



H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:08 September 2022

V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
Humidity:65.0%  
Test Distance:6.265m [K=1.0000]  
Remarks:

V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
Humidity:65.0%  
Test Distance:6.265m [K=1.0000]  
Remarks:

V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
Humidity:65.0%  
Test Distance:6.265m [K=1.0000]  
Remarks:

V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
Humidity:65.0%  
Test Distance:6.265m [K=1.0000]  
Remarks:

V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
Humidity:65.0%  
Test Distance:6.265m [K=1.0000]  
Remarks: