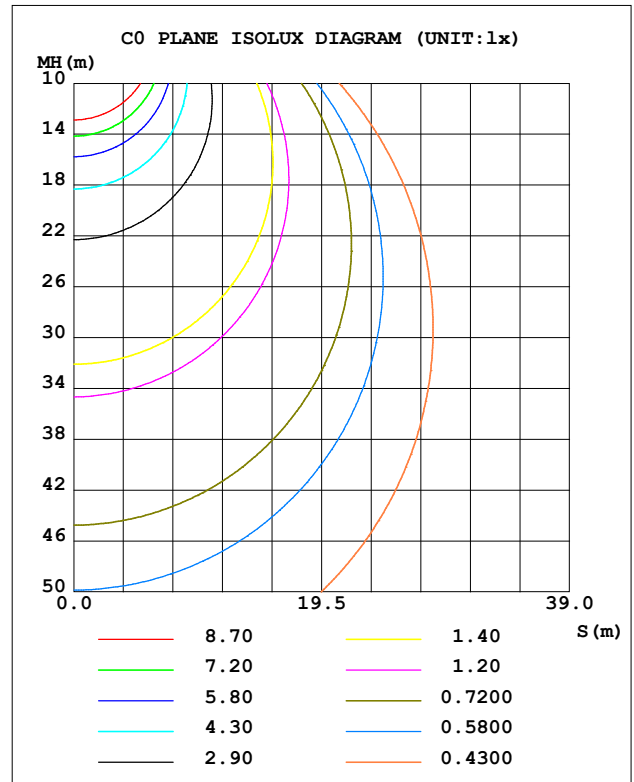
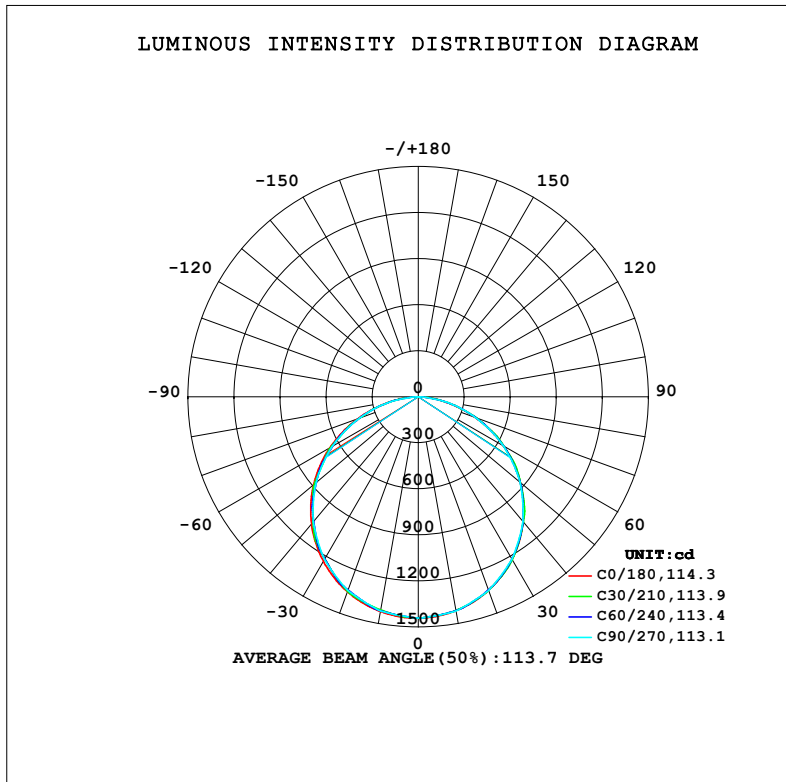


LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: 99XPanel020W	TYPE: 99XPanel020W	WEIGHT: 1
SPEC.:	DIM.: 250 x 90	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	99XPanel020W	Imax(cd)	1443	S/MH(C0/180)	1.28
NOMINAL POWER(W)	48	LOR(%)	96.1	S/MH(C90/270)	1.26
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	4152.1	η UP,DN(C0-180)	0.0,47.9
NOMINAL FLUX(lm)	4320	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,48.2
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	230	η down (%)	96.1	CIBSE SHR MAX	1.35



H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:
Test Date:02 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:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	1415	1413	1417	1412	1421	1412	1417	1413	0- 10	136.1	136.1	3.28, 3.15
20	1341	1341	1342	1336	1352	1337	1343	1341	10- 20	390.4	526.5	12.7, 12.2
30	1223	1222	1222	1223	1237	1224	1224	1222	20- 30	593.3	1120	27, 25.9
40	1064	1062	1061	1069	1082	1072	1064	1063	30- 40	718.5	1838	44.3, 42.6
50	868.5	865.9	865.1	877.3	890.7	881.3	869.6	868.0	40- 50	749.5	2588	62.3, 59.9
60	642.0	642.9	640.3	649.8	666.2	655.6	647.3	646.3	50- 60	680.9	3269	78.7, 75.7
70	394.2	401.3	396.7	401.2	420.4	408.7	405.9	406.1	60- 70	521.0	3790	91.3, 87.7
80	155.9	167.4	161.6	165.8	179.6	174.8	174.4	174.7	70- 80	299.8	4089	98.5, 94.7
90	0.8051	0	0	0	3.234	0	0	0	80- 90	62.61	4152	100, 96.1
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): 2215.4 lm

%lum = 53.4%

%lamp = 51.3%

Conical surface Flux(130deg): 3554.1 lm

%lum = 85.6%

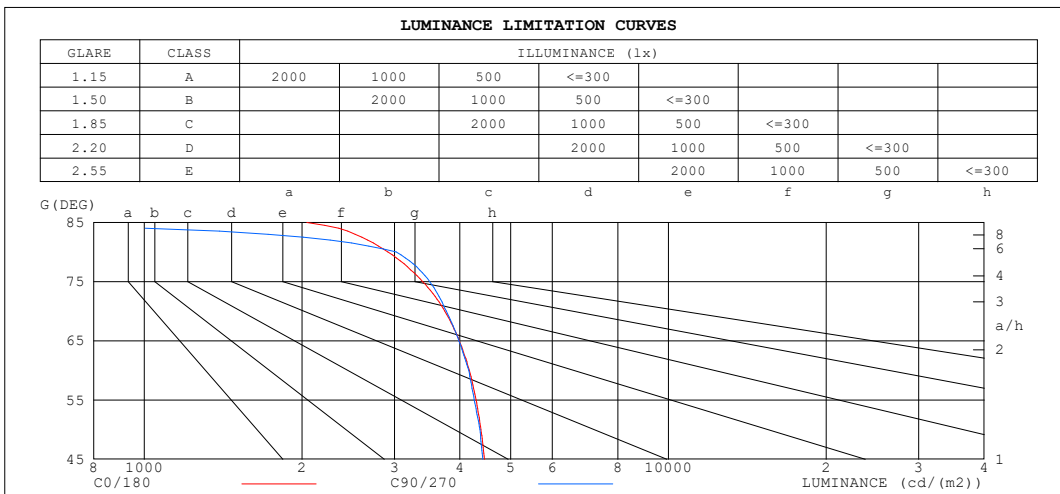
%lamp = 82.3%

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:
Test Date:02 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: 99XPanel1020W	TYPE: 99XPanel1020W	WEIGHT: 1
SPEC.:	DIM.: 250 x 90	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	2041	0
80	2915	3021
75	3396	3502
70	3742	3766
65	3989	3983
60	4168	4157
55	4295	4260
50	4386	4369
45	4456	4422

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:
Test Date:02 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: 99XPanel020W	TYPE: 99XPanel020W	WEIGHT: 1
SPEC.:	DIM.: 250 x 90	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square	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	.296	.168	.053	.289	.165	.052	.276	.159	.051	.265	.153	.049	.254	.147	.047	
2.0	.280	.154	.047	.274	.151	.047	.263	.146	.045	.253	.142	.044	.243	.137	.043	
3.0	.260	.138	.041	.255	.136	.041	.245	.133	.040	.235	.129	.040	.227	.126	.039	
4.0	.240	.125	.037	.235	.123	.036	.226	.120	.036	.218	.117	.035	.211	.114	.035	
5.0	.222	.113	.033	.218	.112	.033	.210	.109	.032	.203	.107	.032	.196	.105	.031	
6.0	.206	.103	.030	.202	.102	.029	.195	.100	.029	.189	.098	.029	.183	.096	.029	
7.0	.192	.095	.027	.188	.094	.027	.182	.092	.027	.176	.090	.026	.171	.089	.026	
8.0	.179	.087	.025	.176	.087	.024	.170	.085	.024	.165	.084	.024	.160	.082	.024	
9.0	.168	.081	.023	.165	.080	.023	.160	.079	.022	.155	.078	.022	.151	.077	.022	
10.0	.158	.076	.021	.155	.075	.021	.151	.074	.021	.146	.073	.021	.142	.072	.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	.183	.183	.183	.156	.156	.156	.107	.107	.107	.061	.061	.061	.020	.020	.020	
1.0	.173	.150	.129	.148	.129	.111	.101	.089	.077	.058	.051	.045	.019	.017	.014	
2.0	.166	.127	.094	.142	.109	.081	.097	.076	.057	.056	.044	.033	.018	.014	.011	
3.0	.158	.110	.071	.136	.095	.062	.093	.066	.043	.054	.038	.026	.017	.012	.008	
4.0	.151	.097	.056	.129	.084	.049	.089	.058	.034	.051	.034	.020	.017	.011	.007	
5.0	.144	.087	.045	.123	.075	.039	.085	.053	.028	.049	.031	.016	.016	.010	.005	
6.0	.137	.079	.038	.118	.068	.033	.081	.048	.023	.047	.028	.014	.015	.009	.005	
7.0	.130	.072	.032	.112	.063	.028	.077	.044	.020	.045	.026	.012	.015	.008	.004	
8.0	.124	.067	.028	.107	.058	.024	.074	.041	.017	.043	.024	.010	.014	.008	.003	
9.0	.118	.062	.024	.102	.054	.021	.071	.038	.015	.041	.022	.009	.013	.007	.003	
10.0	.113	.058	.022	.097	.050	.019	.067	.035	.013	.039	.021	.008	.013	.007	.003	

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:
Test Date:02 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: 99XPanel020W						TYPE: 99XPanel020W			WEIGHT: 1		
SPEC.:						DIM.: 250 x 90			SERIAL No.: 0		
MFR.: Elmark Industries JSC						SUR.: square			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	14.5	13.2	14.7	14.9	12.8	14.4	13.1	14.6	14.8
	3H	14.5	15.9	14.8	16.1	16.3	14.4	15.8	14.7	16.0	16.2
	4H	15.0	16.4	15.4	16.6	16.9	15.0	16.3	15.3	16.6	16.8
	6H	15.5	16.7	15.8	17.0	17.3	15.4	16.6	15.7	16.9	17.2
	8H	15.6	16.8	15.9	17.1	17.3	15.4	16.7	15.8	17.0	17.2
	12H	15.6	16.8	15.9	17.0	17.4	15.4	16.6	15.8	16.9	17.2
4H	2H	13.5	14.9	13.8	15.1	15.4	13.5	14.8	13.8	15.1	15.3
	3H	15.2	16.4	15.6	16.7	17.0	15.2	16.3	15.5	16.6	16.9
	4H	16.0	17.0	16.3	17.4	17.7	15.9	17.0	16.3	17.3	17.6
	6H	16.5	17.4	16.9	17.8	18.2	16.4	17.4	16.8	17.7	18.1
	8H	16.6	17.5	17.0	17.9	18.3	16.5	17.4	16.9	17.8	18.2
	12H	16.7	17.5	17.1	17.9	18.3	16.5	17.3	16.9	17.7	18.1
8H	4H	16.2	17.1	16.6	17.5	17.9	16.2	17.0	16.6	17.4	17.8
	6H	16.9	17.6	17.3	18.0	18.5	16.8	17.6	17.3	18.0	18.4
	8H	17.1	17.8	17.6	18.2	18.6	17.0	17.7	17.5	18.1	18.5
	12H	17.2	17.8	17.7	18.3	18.7	17.0	17.6	17.5	18.0	18.5
12H	4H	16.2	17.0	16.7	17.4	17.8	16.2	17.0	16.6	17.4	17.8
	6H	16.9	17.6	17.4	18.0	18.5	16.9	17.5	17.4	18.0	18.4
	8H	17.2	17.8	17.7	18.2	18.7	17.1	17.6	17.6	18.1	18.6
Variations with the observer position at spacings(CIE Pub.117):											
S = 1.0H		+ 0.2 / - 0.2					+ 0.1 / - 0.2				
1.5H		+ 0.2 / - 0.4					+ 0.1 / - 0.3				
2.0H		+ 0.2 / - 0.4					+ 0.2 / - 0.3				

CIE Pub.117, 4320 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 5.1)
Area: 0.308025 m2

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:
Test Date:02 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: 99XPanel020W	TYPE: 99XPanel020W	WEIGHT: 1
SPEC.:	DIM.: 250 x 90	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square	Shielding Angle:

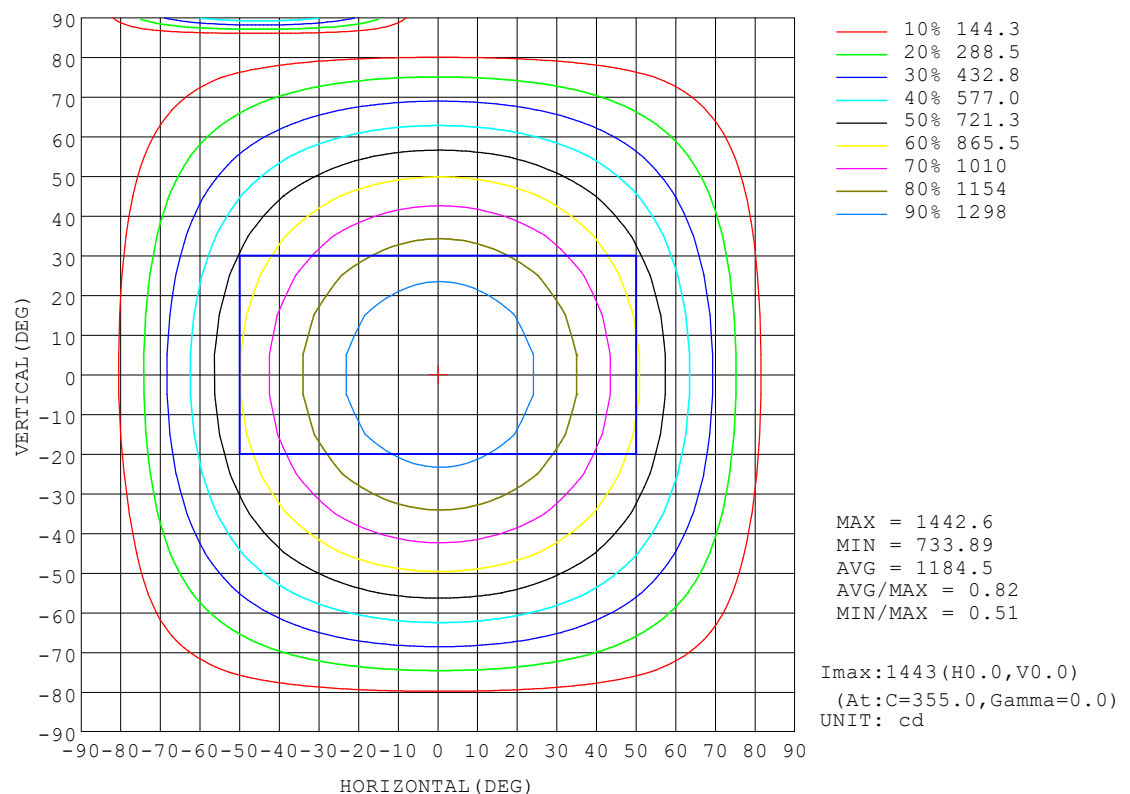
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	55	44	37	54	44	37	53	43	37	31
0.80	65	54	46	64	53	46	62	52	46	39
1.00	73	62	55	72	62	55	70	63	54	47
1.25	80	70	63	78	69	62	76	68	62	55
1.50	85	75	68	83	74	68	80	72	67	60
2.00	91	83	77	89	82	76	86	80	75	67
2.50	95	88	82	93	86	81	89	84	79	71
3.00	98	92	86	96	90	85	92	87	83	75
4.00	102	97	92	100	95	91	96	92	88	80
5.00	105	100	96	102	98	94	98	95	92	83
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:25.3°C
Operators:
Test Date:02 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: 99XPanel1020W	TYPE: 99XPanel1020W	WEIGHT: 1
SPEC.:	DIM.: 250 x 90	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square	Shielding Angle:

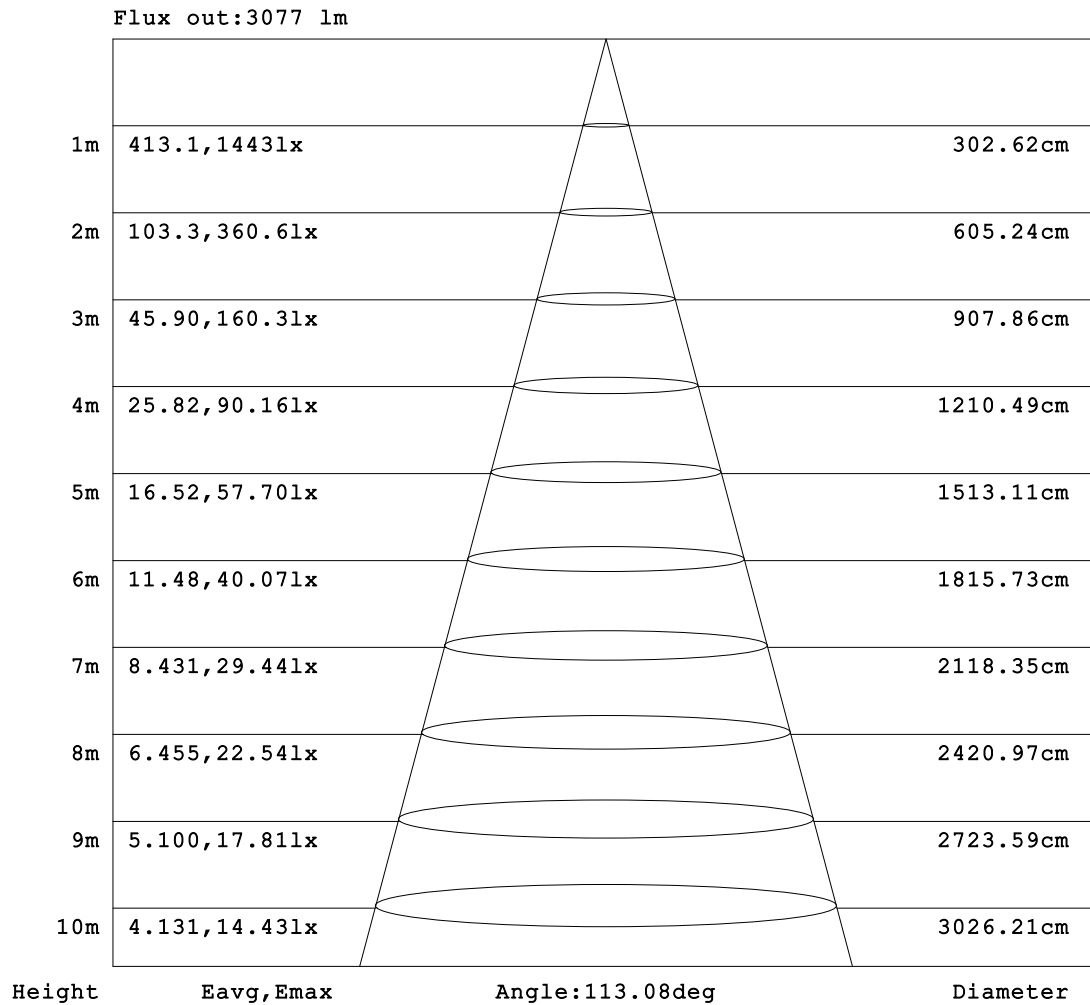


H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:
Test Date:02 September 2022

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: 99XPanel020W	TYPE: 99XPanel020W	WEIGHT: 1
SPEC.:	DIM.: 250 x 90	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square	Shielding Angle:



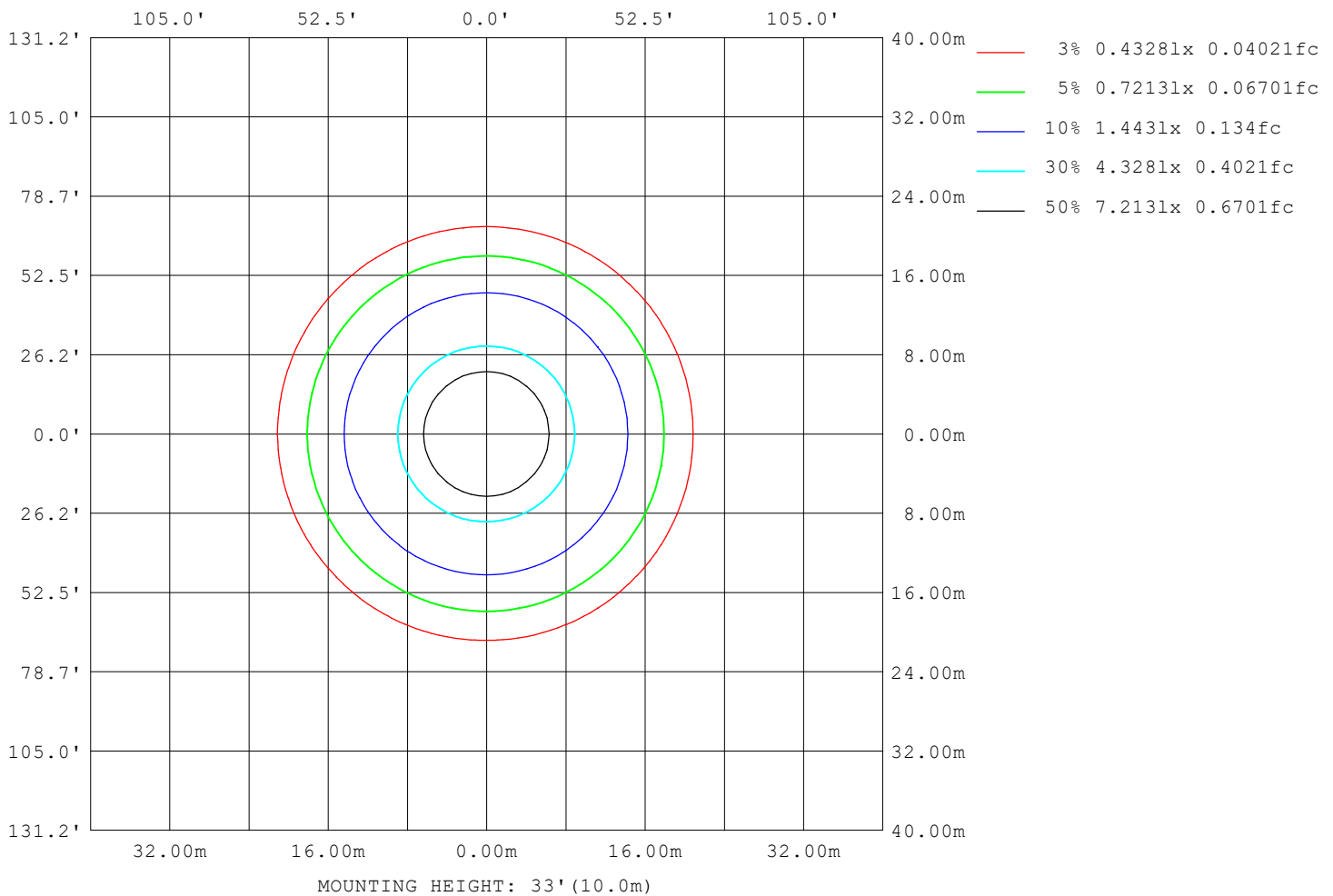
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

H(β) Range:-90 - 90DEG
 H(β) Interval: 1.0DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:
 Test Date:02 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: 99XPanel1020W	TYPE: 99XPanel1020W	WEIGHT: 1
SPEC.:	DIM.: 250 x 90	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square	Shielding Angle:



H(β) Range:-90 - 90DEG
 H(β) Interval: 1.0DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:
 Test Date:02 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: 99XPanel020W	TYPE: 99XPanel020W	WEIGHT: 1
SPEC.:	DIM.: 250 x 90	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: square	Shielding Angle:

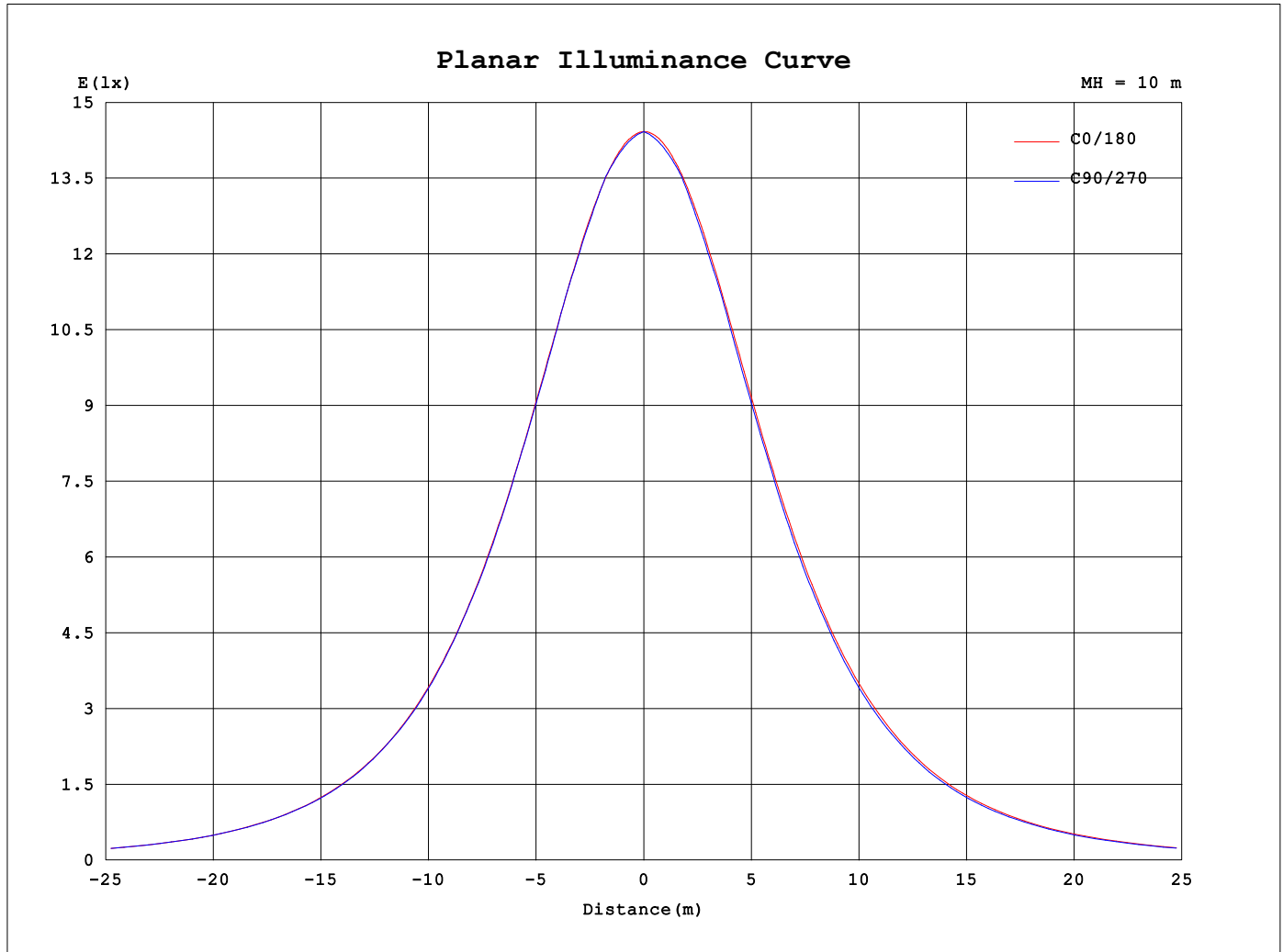
AvgL	cd/m2
L_0~180 (65) av	4087
L_0~180 (75) av	3557
L_0~180 (85) av	2444
L_90~270 (65) av	4014
L_90~270 (75) av	3570
L_90~270 (85) av	0
L_45 (65) av	4045
L_45 (75) av	3536
L_45 (85) av	1645

Standard: GB/T 29293-2012

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:
Test Date:02 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(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:
Test Date:02 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:

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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:
```

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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:
```