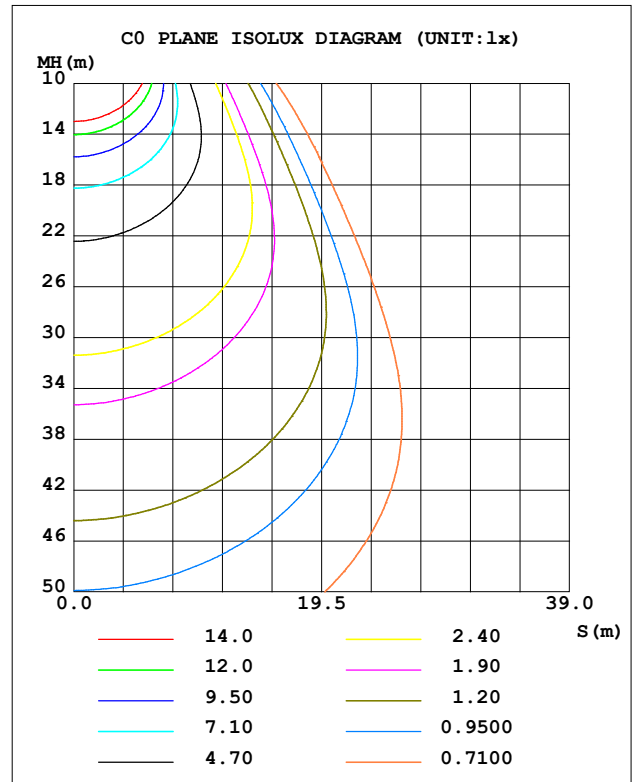
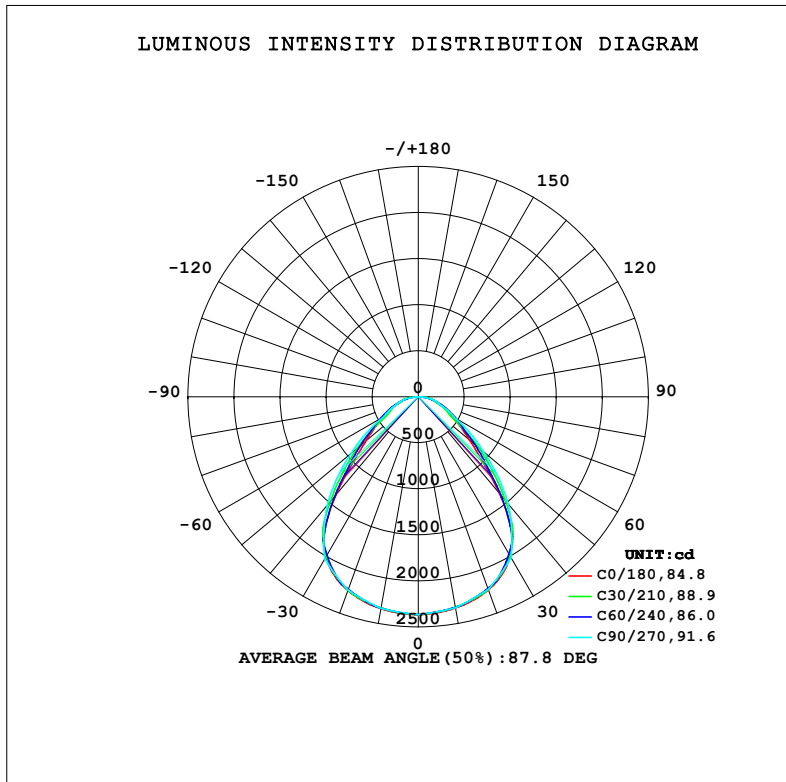


## LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: 92Panel029W	TYPE: 92Panel029W	WEIGHT: 1
SPEC.:	DIM.: 1155 x 255	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	92Panel029W	Imax (cd)	2366	S/MH (C0/180)	1.21
NOMINAL POWER (W)	48	LOR (%)	94.2	S/MH (C90/270)	1.25
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	4975.1	$\eta$ UP, DN (C0-180)	0.0, 47.0
NOMINAL FLUX (lm)	5280	CIE CLASS	DIRECT	$\eta$ UP, DN (C180-360)	0.0, 47.2
LAMPS INSIDE	1	$\eta$ up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230	$\eta$ down (%)	94.2	CIBSE SHR MAX	1.30



H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
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	2330	2318	2326	2323	2338	2329	2333	2324	0- 10	223.5	223.5	4.49, 4.23
20	2231	2212	2224	2220	2239	2224	2233	2221	10- 20	645.0	868.5	17.5, 16.4
30	1996	1978	2017	1990	2007	1992	2032	1995	20- 30	980.7	1849	37.2, 35
40	1375	1455	1522	1461	1392	1459	1542	1473	30- 40	1095	2944	59.2, 55.8
50	724.0	810.6	917.3	828.2	734.4	821.5	947.1	822.6	40- 50	861.2	3805	76.5, 72.1
60	422.3	458.6	453.1	465.2	436.5	461.2	429.4	463.0	50- 60	560.0	4365	87.7, 82.7
70	245.4	270.4	252.4	277.0	253.6	267.2	255.3	266.4	60- 70	349.6	4714	94.8, 89.3
80	127.1	139.6	143.4	144.5	128.9	135.3	139.8	129.4	70- 80	205.8	4920	98.9, 93.2
90	1.859	0	0	0	1.965	0	0	0	80- 90	54.87	4975	100, 94.2
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): 3414.6 lm

%lum = 68.6%  
%lamp = 64.7%

Conical surface Flux(130deg): 4559.7 lm

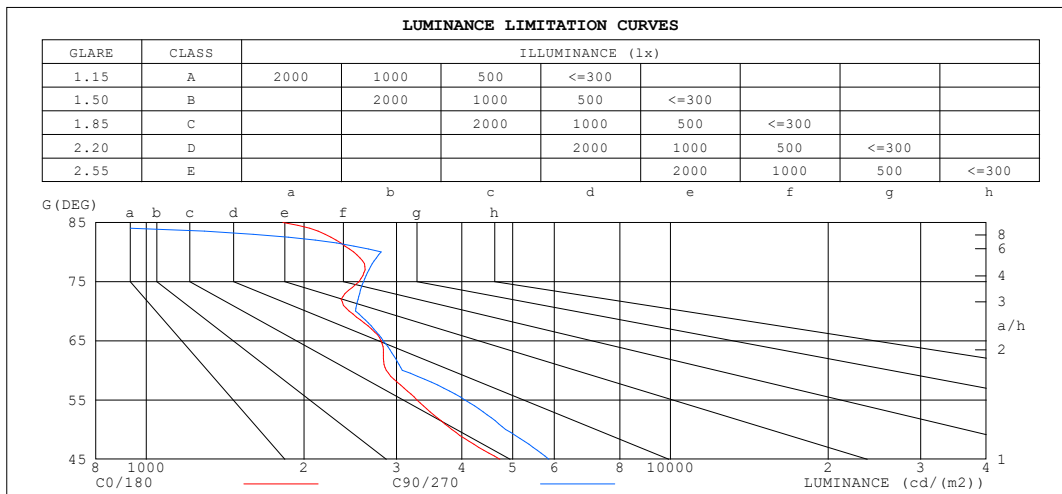
%lum = 91.6%  
%lamp = 86.4%

H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
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: 92Panel029W	TYPE: 92Panel029W	WEIGHT: 1
SPEC.:	DIM.: 1155 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: HIGH  
 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: 92Panel029W	TYPE: 92Panel029W	WEIGHT: 1
SPEC.:	DIM.: 1155 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	.248	.141	.045	.242	.138	.044	.230	.132	.042	.218	.126	.040	.208	.120	.039	
2.0	.237	.130	.040	.231	.127	.039	.220	.122	.038	.210	.118	.037	.201	.114	.036	
3.0	.222	.118	.035	.217	.116	.035	.207	.112	.034	.199	.109	.033	.191	.106	.033	
4.0	.207	.108	.032	.203	.106	.031	.195	.103	.031	.187	.100	.030	.180	.098	.030	
5.0	.194	.099	.029	.190	.098	.028	.183	.095	.028	.176	.093	.028	.169	.091	.027	
6.0	.182	.091	.026	.178	.090	.026	.172	.088	.026	.166	.086	.025	.160	.084	.025	
7.0	.171	.084	.024	.168	.083	.024	.162	.082	.024	.156	.080	.023	.151	.079	.023	
8.0	.161	.078	.022	.158	.078	.022	.153	.076	.022	.148	.075	.022	.143	.074	.021	
9.0	.152	.073	.020	.149	.073	.020	.145	.071	.020	.140	.070	.020	.136	.069	.020	
10.0	.143	.069	.019	.141	.068	.019	.137	.067	.019	.133	.066	.019	.129	.065	.019	

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	.179	.179	.179	.153	.153	.153	.105	.105	.105	.060	.060	.060	.019	.019	.019	
1.0	.167	.148	.130	.143	.127	.112	.098	.087	.077	.056	.050	.045	.018	.016	.015	
2.0	.157	.124	.097	.135	.107	.084	.092	.074	.058	.053	.043	.034	.017	.014	.011	
3.0	.149	.107	.075	.127	.093	.065	.088	.064	.045	.051	.038	.027	.016	.012	.009	
4.0	.141	.095	.059	.121	.082	.051	.083	.057	.036	.048	.033	.021	.015	.011	.007	
5.0	.134	.084	.048	.115	.073	.042	.079	.051	.029	.046	.030	.017	.015	.010	.006	
6.0	.127	.076	.040	.109	.066	.035	.076	.046	.024	.044	.027	.015	.014	.009	.005	
7.0	.121	.070	.034	.104	.060	.029	.072	.042	.021	.042	.025	.012	.014	.008	.004	
8.0	.116	.064	.029	.100	.056	.025	.069	.039	.018	.040	.023	.011	.013	.008	.004	
9.0	.110	.060	.025	.095	.052	.022	.066	.036	.016	.038	.021	.009	.012	.007	.003	
10.0	.105	.055	.022	.091	.048	.019	.063	.034	.014	.037	.020	.008	.012	.007	.003	

H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
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: 92Panel029W						TYPE: 92Panel029W			WEIGHT: 1		
SPEC.:						DIM.: 1155 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	10.7	12.1	11.0	12.2	12.4	11.1	12.4	11.3	12.6	12.8
	3H	11.5	12.8	11.8	13.0	13.2	11.9	13.2	12.2	13.4	13.6
	4H	11.9	13.1	12.2	13.3	13.6	12.3	13.5	12.6	13.8	14.0
	6H	12.3	13.4	12.6	13.6	13.9	12.8	13.9	13.1	14.2	14.4
	8H	12.4	13.5	12.7	13.7	14.0	12.9	14.0	13.2	14.2	14.5
	12H	12.5	13.5	12.8	13.8	14.1	12.9	13.9	13.2	14.2	14.5
4H	2H	11.0	12.2	11.3	12.4	12.7	11.3	12.5	11.7	12.8	13.0
	3H	12.0	13.1	12.4	13.4	13.7	12.5	13.5	12.8	13.8	14.1
	4H	12.6	13.5	13.0	13.8	14.2	13.0	14.0	13.4	14.3	14.6
	6H	13.1	13.9	13.5	14.3	14.6	13.6	14.5	14.0	14.8	15.2
	8H	13.3	14.1	13.7	14.4	14.8	13.8	14.6	14.2	14.9	15.3
	12H	13.5	14.2	13.9	14.5	14.9	13.8	14.5	14.2	14.9	15.3
8H	4H	12.9	13.6	13.3	14.0	14.4	13.2	14.0	13.6	14.4	14.7
	6H	13.6	14.2	14.0	14.6	15.0	14.0	14.6	14.4	15.0	15.4
	8H	13.9	14.5	14.4	14.9	15.3	14.2	14.7	14.6	15.2	15.6
	12H	14.2	14.7	14.7	15.1	15.6	14.2	14.7	14.7	15.1	15.6
12H	4H	12.9	13.6	13.3	14.0	14.4	13.2	13.9	13.7	14.3	14.7
	6H	13.7	14.2	14.1	14.6	15.1	14.0	14.6	14.5	15.0	15.5
	8H	14.1	14.5	14.5	15.0	15.5	14.3	14.8	14.7	15.2	15.7
Variations with the observer position at spacings(CIE Pub.117):											
S = 1.0H		+ 0.5 / - 0.6					+ 0.3 / - 0.4				
1.5H		+ 0.4 / - 0.4					+ 0.2 / - 0.3				
2.0H		+ 0.6 / - 0.6					+ 0.8 / - 0.7				

CIE Pub.117, 5280 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 5.8)  
Area: 0.294525 m2

H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
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: 92Panel029W	TYPE: 92Panel029W	WEIGHT: 1
SPEC.:	DIM.: 1155 x 255	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle	Shielding Angle:

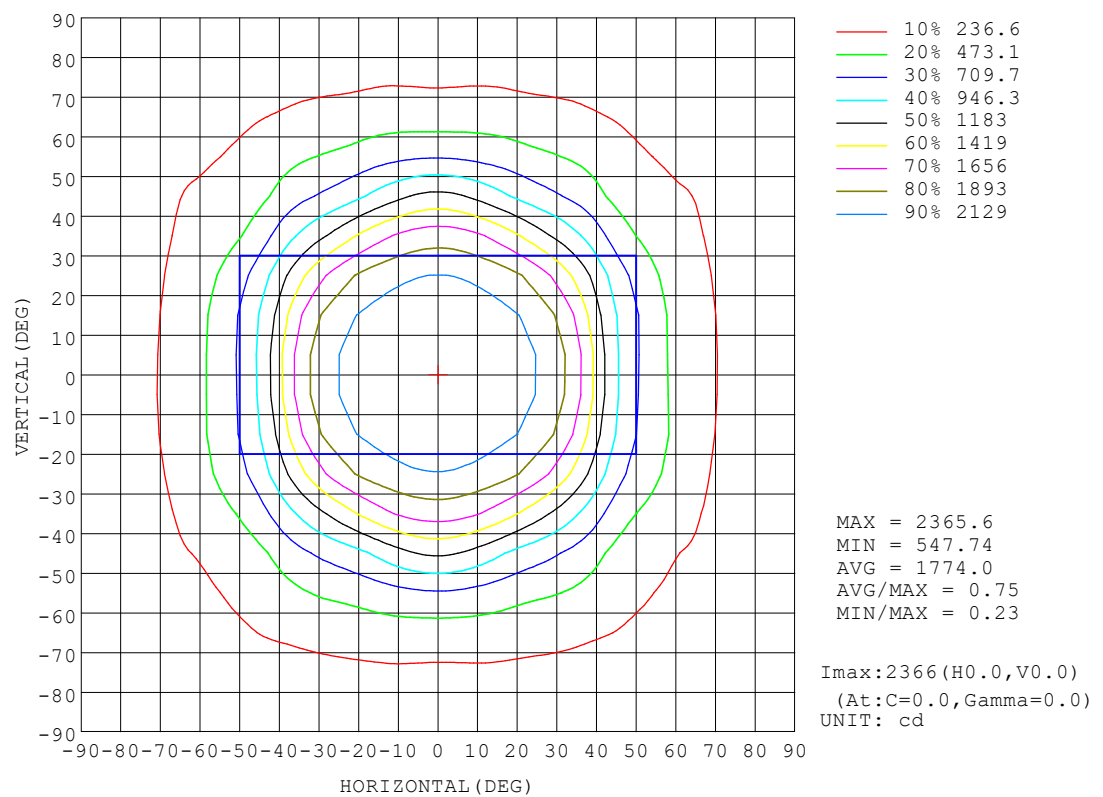
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	62	53	47	62	53	47	61	52	47	42
0.80	71	62	56	71	62	56	69	61	56	50
1.00	79	70	64	78	69	64	76	70	63	58
1.25	85	76	71	83	76	70	81	74	70	64
1.50	89	81	76	87	80	75	85	79	74	68
2.00	94	87	82	92	86	82	89	84	80	74
2.50	97	91	86	95	90	85	92	87	84	76
3.00	99	94	90	98	93	89	94	90	87	79
4.00	103	98	94	100	96	93	97	93	91	83
5.00	104	101	97	102	99	96	98	95	93	85
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: HIGH  
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: 92Panel029W	TYPE: 92Panel029W	WEIGHT: 1
SPEC.:	DIM.: 1155 x 255	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle	Shielding Angle:



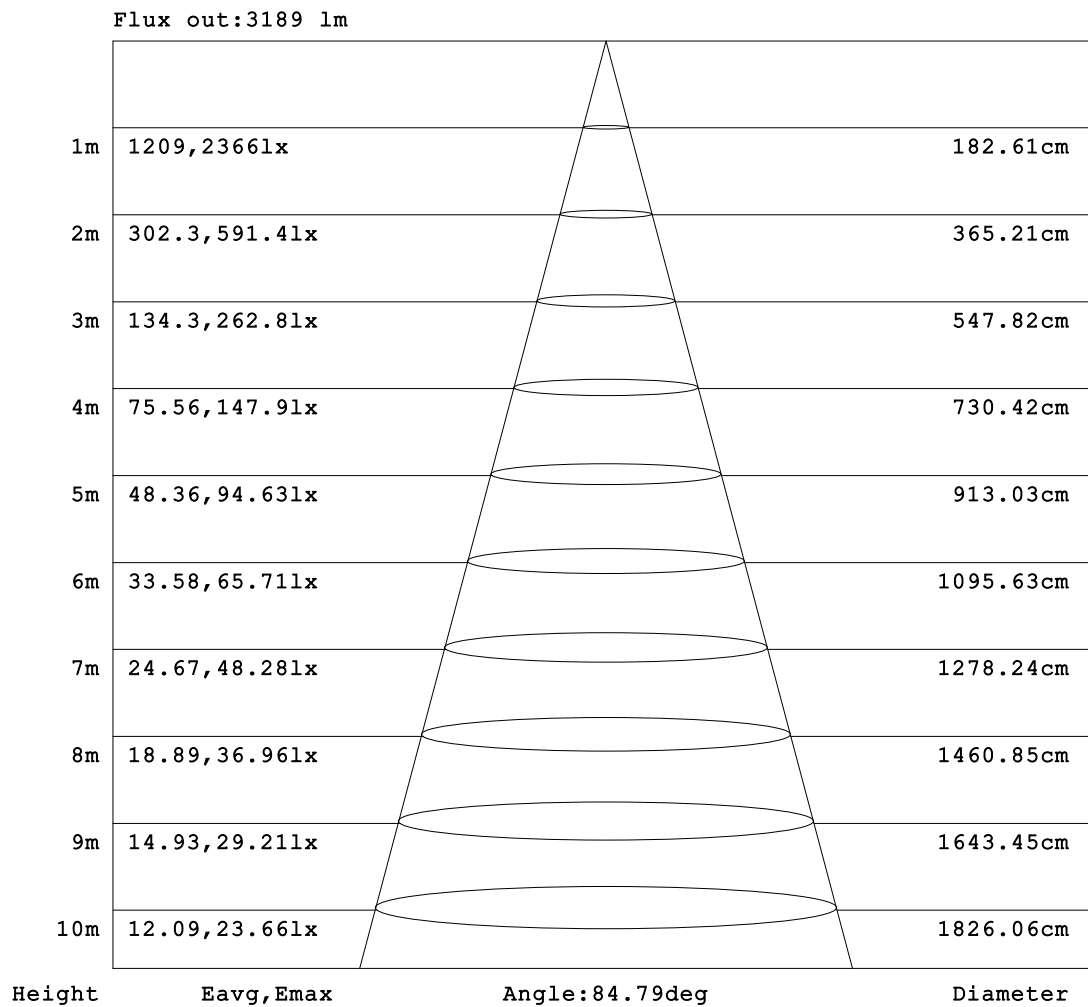
H( $\beta$ ) Range: -90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators:  
Test Date: 08 September 2022

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: 92Panel029W	TYPE: 92Panel029W	WEIGHT: 1
SPEC.:	DIM.: 1155 x 255	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle	Shielding Angle:



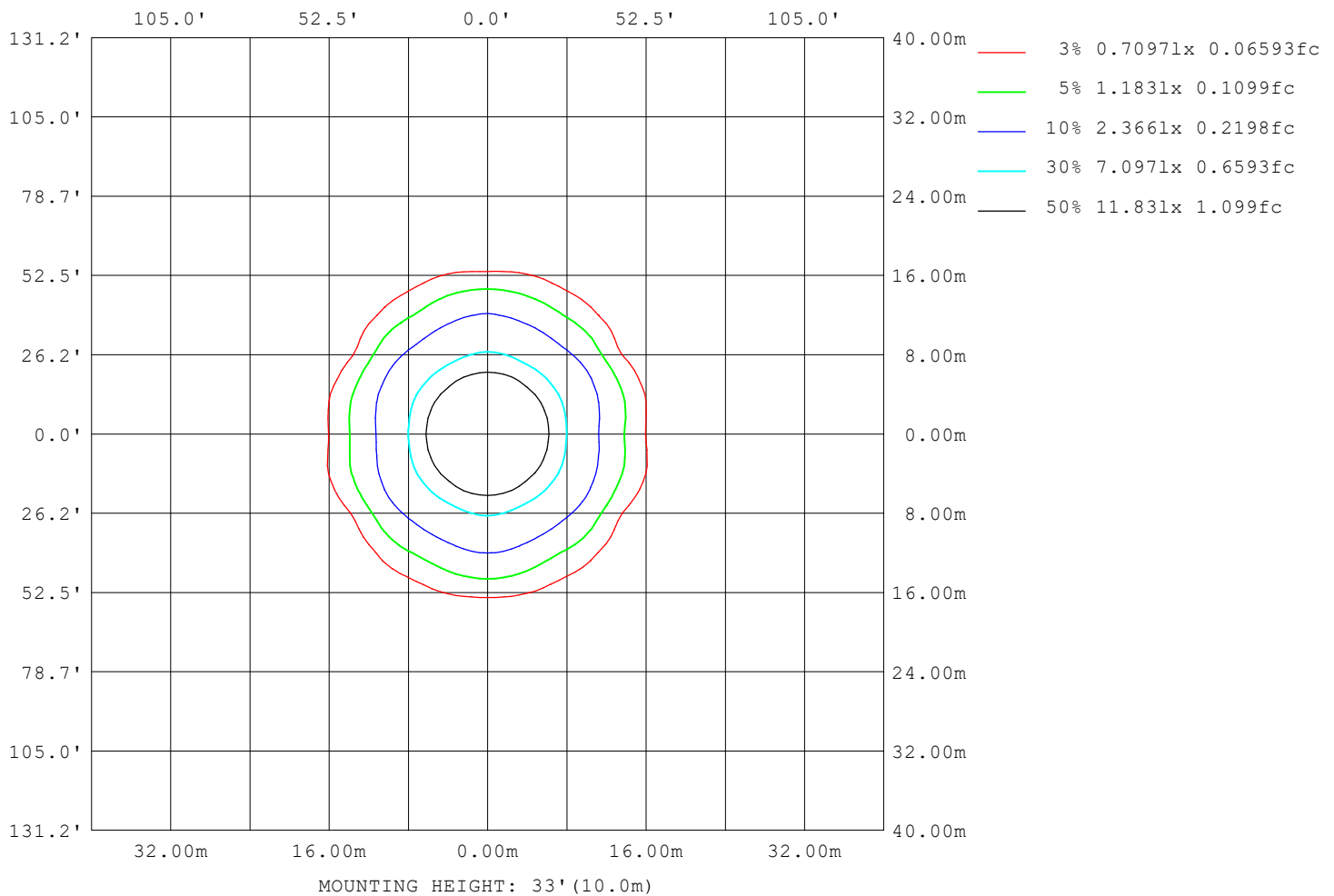
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

H( $\beta$ ) Range: -90 - 90DEG  
 H( $\beta$ ) Interval: 1.0DEG  
 Test Speed: HIGH  
 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: 92Panel029W	TYPE: 92Panel029W	WEIGHT: 1
SPEC.:	DIM.: 1155 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: HIGH  
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: 92Panel029W	TYPE: 92Panel029W	WEIGHT: 1
SPEC.:	DIM.: 1155 x 255	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle	Shielding Angle:

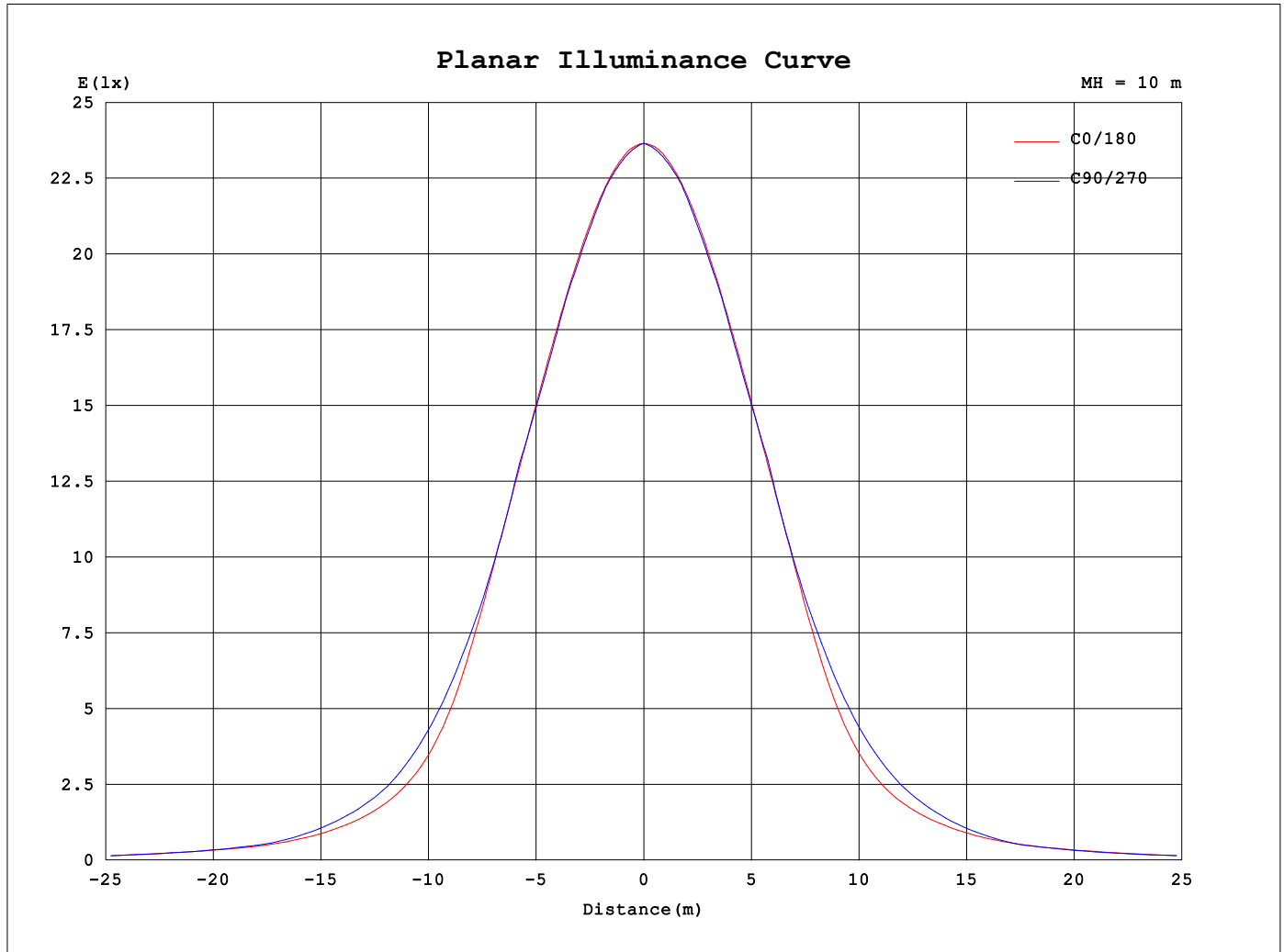
AvgL	cd/m2
L_0~180 (65) av	2837
L_0~180 (75) av	2521
L_0~180 (85) av	1846
L_90~270 (65) av	2792
L_90~270 (75) av	2594
L_90~270 (85) av	0
L_45 (65) av	2866
L_45 (75) av	2650
L_45 (85) av	1573

Standard: GB/T 29293-2012

H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
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: HIGH  
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:
```