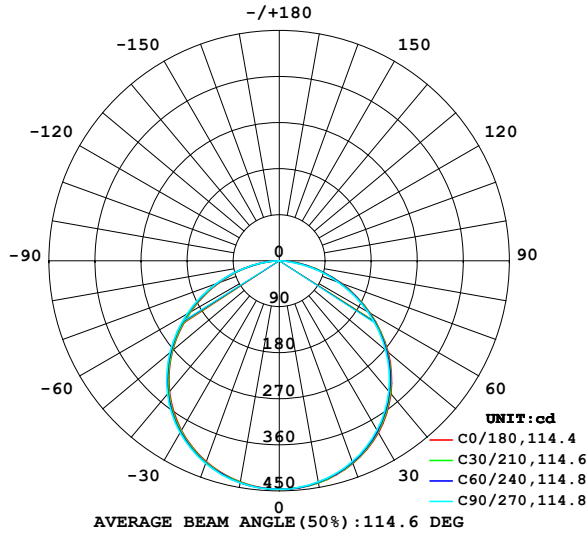


## LUMINAIRE PHOTOMETRIC TEST REPORT

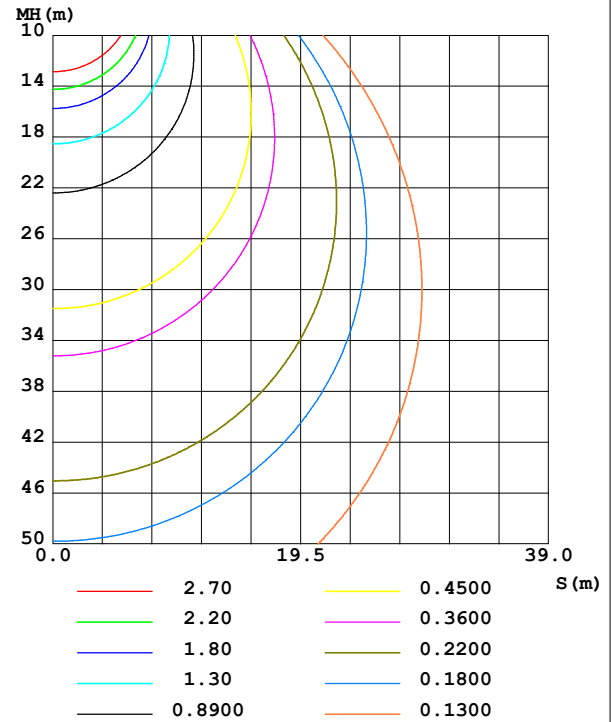
NAME: 99XLED614	TYPE: 99XLED614	WEIGHT: 1
SPEC.:	DIM.: F225	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle F175	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	99XLED614	I <sub>max</sub> (cd)	446.8	S/MH (C0/180)	1.27
NOMINAL POWER (W)	18	LOR (%)	97.0	S/MH (C90/270)	1.29
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	1309.1	η UP, DN (C0-180)	0.0, 48.1
NOMINAL FLUX (lm)	1350	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 48.9
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230	η down (%)	97.0	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: MEDIUM  
Temperature: 25.3°C  
Operators:  
Test Date: 14 July 2022

γ Range: 0 - 90DEG  
γ Interval: 2.5DEG  
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	441.0	440.1	439.0	438.7	439.1	440.1	441.0	441.4	0- 10	42.33	42.33	3.23,3.14
20	421.4	419.6	417.7	416.9	417.8	419.7	421.5	422.2	10- 20	121.9	164.2	12.5,12.2
30	387.7	385.1	382.4	381.4	382.8	385.4	387.9	388.8	20- 30	186.3	350.5	26.8,26
40	339.4	336.5	333.3	331.9	333.8	337.1	340.1	340.8	30- 40	226.8	577.3	44.1,42.8
50	277.6	274.5	271.4	269.7	271.7	275.7	279.2	279.4	40- 50	236.9	814.2	62.2,60.3
60	205.5	202.8	200.1	197.9	200.0	204.7	208.3	207.9	50- 60	214.5	1029	78.6,76.2
70	129.1	126.5	122.9	122.3	124.7	128.9	130.4	131.1	60- 70	163.7	1192	91.1,88.3
80	55.62	52.23	47.16	49.31	52.33	53.54	53.82	54.96	70- 80	94.19	1287	98.3,95.3
90	0.9264	0.7726	0.7432	0.7803	0.6621	0.6867	0.6588	0.6610	80- 90	22.61	1309	100,97
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): 696.52 lm

%lum = 53.2%

%lamp = 51.6%

Conical surface Flux(130deg): 1118.3 lm

%lum = 85.4%

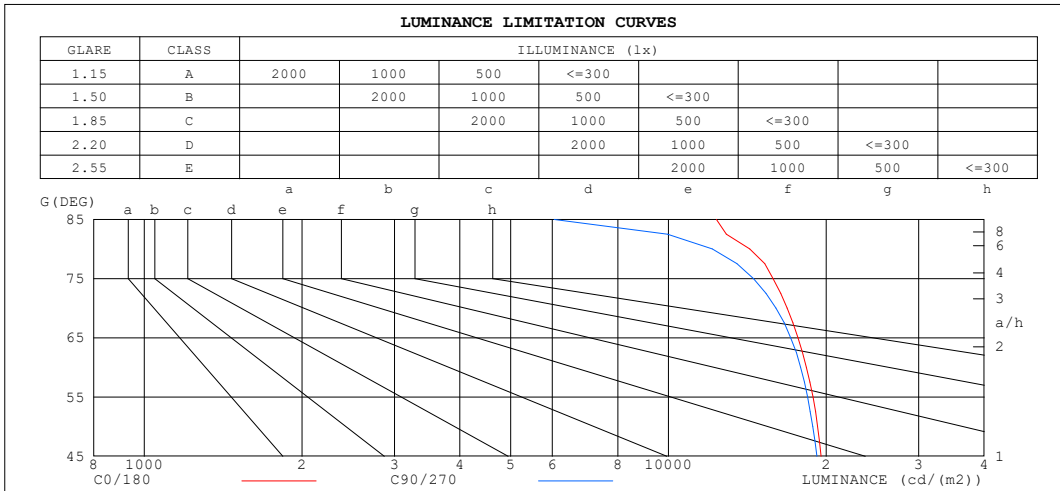
%lamp = 82.8%

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:14 July 2022

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 2.5DEG  
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: 99XLED614	TYPE: 99XLED614	WEIGHT: 1
SPEC.:	DIM.: F225	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle F175	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	12350	6054
80	14284	12121
75	15829	14532
70	16831	16037
65	17666	17107
60	18327	17863
55	18856	18419
50	19257	18847
45	19553	19178

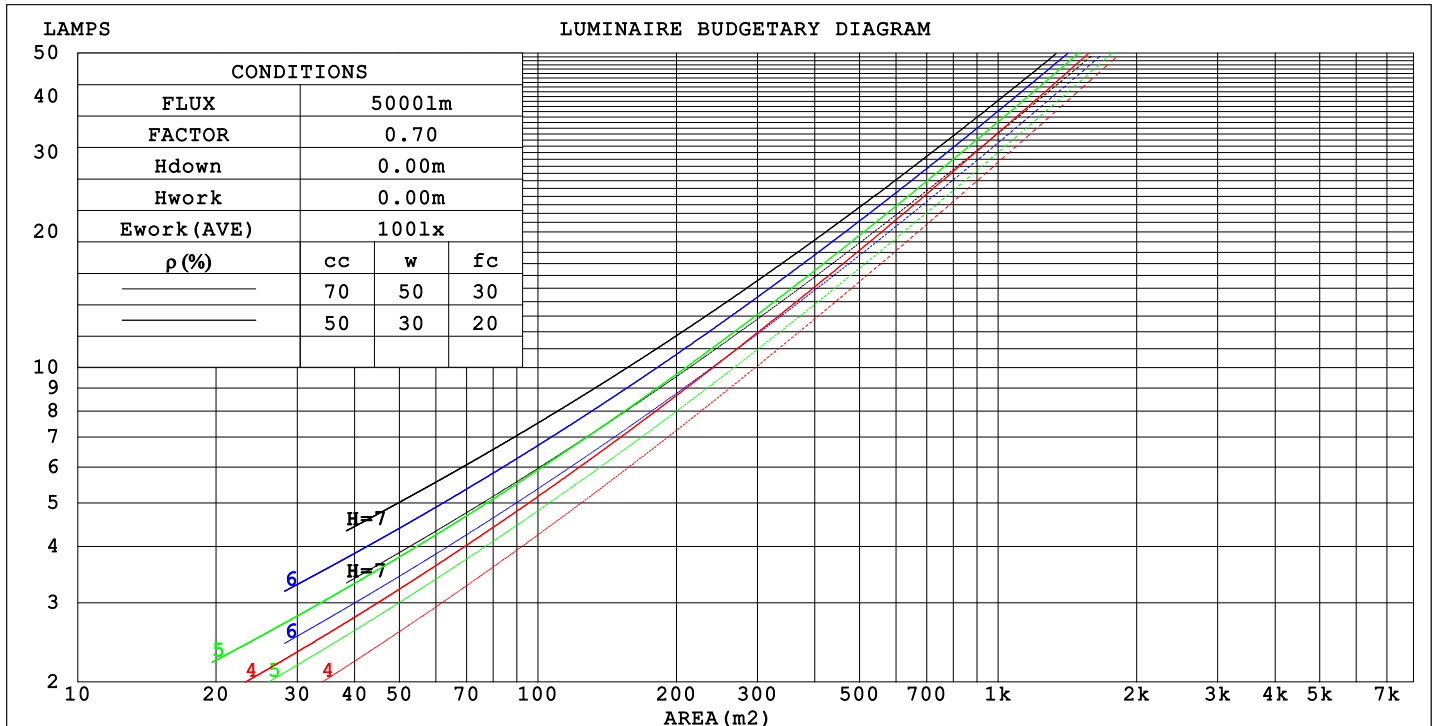
C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: MEDIUM  
 Temperature: 25.3°C  
 Operators:  
 Test Date: 14 July 2022

γ Range: 0 - 90DEG  
 γ Interval: 2.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
 Humidity: 65.0%  
 Test Distance: 6.265m [K=1.0000]  
 Remarks:

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

NAME: 99XLED614	TYPE: 99XLED614	WEIGHT: 1
SPEC.:	DIM.: F225	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle F175	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															



C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:14 July 2022

γ Range: 0 - 90DEG  
γ Interval: 2.5DEG  
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: 99XLED614	TYPE: 99XLED614	WEIGHT: 1
SPEC.:	DIM.: F225	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle F175	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	.301	.171	.054	.294	.168	.053	.281	.161	.051	.269	.155	.050	.258	.150	.048	
2.0	.284	.156	.048	.278	.153	.047	.266	.148	.046	.256	.144	.045	.246	.139	.044	
3.0	.263	.140	.042	.258	.138	.042	.247	.134	.041	.238	.131	.040	.230	.127	.039	
4.0	.243	.126	.037	.238	.124	.037	.229	.121	.036	.221	.119	.036	.213	.116	.035	
5.0	.224	.114	.033	.220	.113	.033	.212	.110	.033	.205	.108	.032	.198	.106	.032	
6.0	.208	.104	.030	.204	.103	.030	.197	.101	.029	.191	.099	.029	.184	.097	.029	
7.0	.194	.096	.027	.190	.095	.027	.184	.093	.027	.178	.091	.027	.172	.090	.026	
8.0	.181	.088	.025	.178	.088	.025	.172	.086	.025	.167	.085	.024	.162	.083	.024	
9.0	.169	.082	.023	.167	.081	.023	.162	.080	.023	.157	.079	.023	.152	.077	.022	
10.0	.159	.076	.021	.157	.076	.021	.152	.075	.021	.148	.073	.021	.144	.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	.185	.185	.185	.158	.158	.158	.108	.108	.108	.062	.062	.062	.020	.020	.020	
1.0	.175	.151	.130	.150	.130	.112	.102	.089	.078	.059	.052	.045	.019	.017	.015	
2.0	.167	.128	.095	.143	.110	.082	.098	.076	.057	.057	.044	.034	.018	.014	.011	
3.0	.160	.111	.072	.137	.096	.062	.094	.066	.044	.054	.039	.026	.017	.013	.008	
4.0	.152	.098	.056	.131	.085	.049	.090	.059	.035	.052	.035	.020	.017	.011	.007	
5.0	.145	.088	.046	.125	.076	.040	.086	.053	.028	.050	.031	.017	.016	.010	.005	
6.0	.138	.080	.038	.119	.069	.033	.082	.048	.023	.048	.028	.014	.015	.009	.005	
7.0	.132	.073	.032	.113	.063	.028	.078	.044	.020	.045	.026	.012	.015	.009	.004	
8.0	.125	.067	.028	.108	.059	.024	.075	.041	.017	.043	.024	.010	.014	.008	.003	
9.0	.119	.063	.024	.103	.054	.021	.071	.038	.015	.042	.023	.009	.013	.007	.003	
10.0	.114	.059	.022	.098	.051	.019	.068	.036	.013	.040	.021	.008	.013	.007	.003	

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:14 July 2022

γ Range: 0 - 90DEG  
γ Interval: 2.5DEG  
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: 99XLED614					TYPE: 99XLED614			WEIGHT: 1			
SPEC.:					DIM.: F225			SERIAL No.: 0			
MFR.: Elmark Industries JSC					SUR.: circle F175			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	22.1	23.6	22.3	23.8	24.0	22.0	23.5	22.2	23.7	23.9
	3H	23.6	25.0	23.9	25.3	25.5	23.5	24.9	23.8	25.1	25.3
	4H	24.2	25.6	24.6	25.8	26.1	24.0	25.4	24.3	25.6	25.9
	6H	24.7	26.0	25.0	26.2	26.5	24.4	25.7	24.7	25.9	26.2
	8H	24.8	26.1	25.2	26.3	26.6	24.5	25.7	24.8	26.0	26.3
	12H	24.9	26.1	25.3	26.4	26.7	24.5	25.6	24.8	25.9	26.2
4H	2H	22.7	24.0	23.0	24.3	24.5	22.6	23.9	22.9	24.2	24.5
	3H	24.4	25.6	24.7	25.9	26.2	24.3	25.4	24.6	25.7	26.0
	4H	25.1	26.2	25.5	26.5	26.9	25.0	26.0	25.3	26.3	26.7
	6H	25.7	26.7	26.1	27.0	27.4	25.4	26.4	25.8	26.7	27.1
	8H	25.9	26.8	26.4	27.2	27.6	25.5	26.4	26.0	26.8	27.2
	12H	26.1	26.9	26.5	27.3	27.7	25.6	26.4	26.0	26.8	27.2
8H	4H	25.4	26.3	25.8	26.7	27.0	25.2	26.1	25.6	26.5	26.9
	6H	26.1	26.9	26.6	27.3	27.7	25.8	26.6	26.3	27.0	27.4
	8H	26.4	27.1	26.9	27.5	28.0	26.0	26.7	26.5	27.1	27.6
	12H	26.6	27.2	27.1	27.6	28.1	26.1	26.6	26.5	27.1	27.6
12H	4H	25.4	26.2	25.8	26.6	27.0	25.2	26.1	25.7	26.4	26.9
	6H	26.2	26.8	26.6	27.3	27.7	25.9	26.6	26.4	27.0	27.4
	8H	26.5	27.1	27.0	27.5	28.0	26.1	26.7	26.6	27.1	27.6
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, 1350 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 1.0)  
Area: 0.0224041 m2

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:14 July 2022

γ Range: 0 - 90DEG  
γ Interval: 2.5DEG  
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: 99XLED614	TYPE: 99XLED614	WEIGHT: 1
SPEC.:	DIM.: F225	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle F175	Shielding Angle:

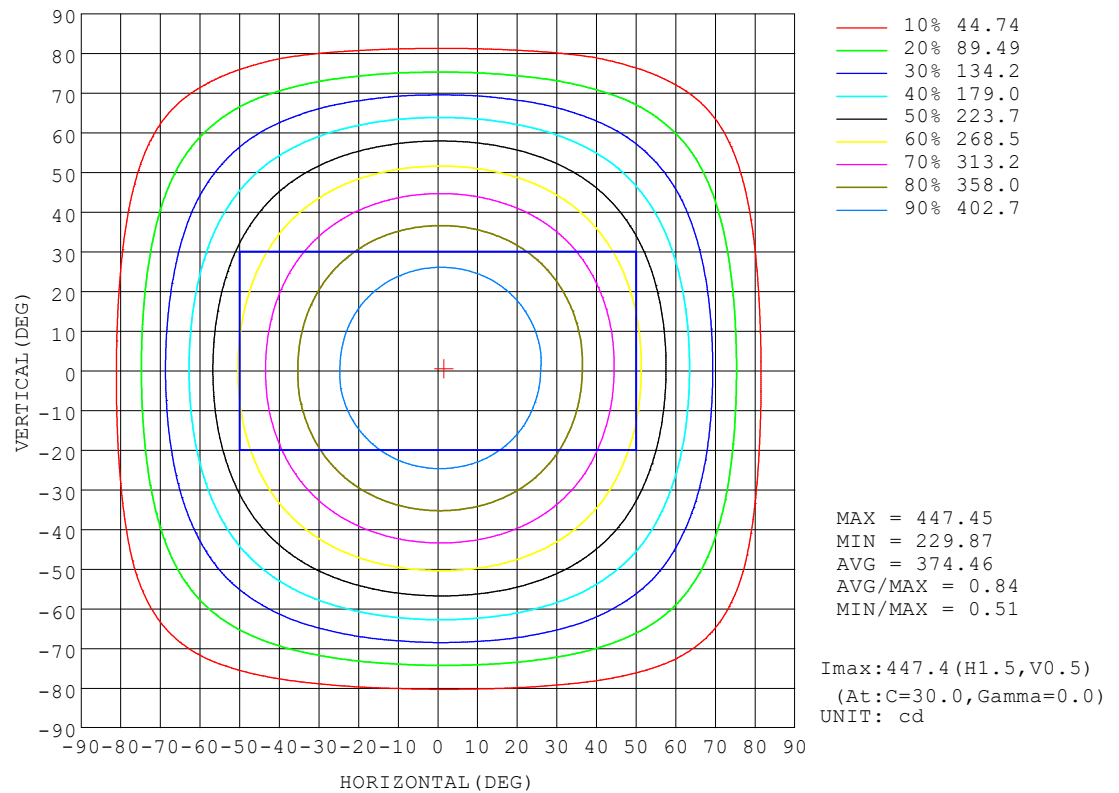
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	55	44	37	55	44	37	54	43	37	31
0.80	65	54	47	64	53	47	62	53	46	39
1.00	73	63	55	72	62	55	70	63	55	48
1.25	80	70	63	79	69	63	76	68	62	55
1.50	85	76	69	84	75	68	81	73	67	60
2.00	92	84	77	90	82	77	87	80	75	67
2.50	96	88	82	94	87	81	90	84	80	72
3.00	99	92	87	97	91	86	93	88	84	76
4.00	103	97	93	101	96	92	97	92	89	80
5.00	105	101	97	103	99	95	99	95	92	83
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: MEDIUM  
Temperature: 25.3°C  
Operators:  
Test Date: 14 July 2022

γ Range: 0 - 90DEG  
γ Interval: 2.5DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
Humidity: 65.0%  
Test Distance: 6.265m [K=1.0000]  
Remarks:

# ISOCANDELA DIAGRAM

NAME: 99XLED614	TYPE: 99XLED614	WEIGHT: 1
SPEC.:	DIM.: F225	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle F175	Shielding Angle:

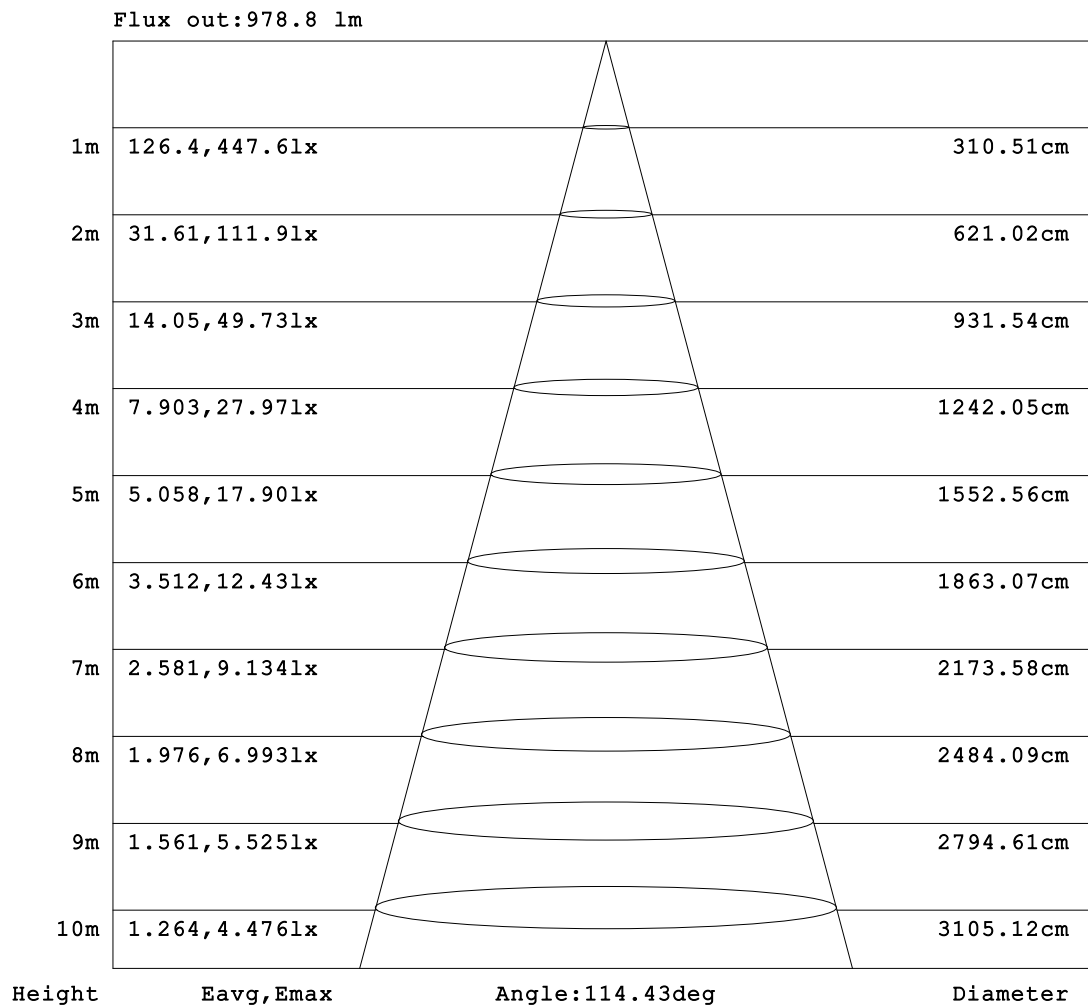


C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: MEDIUM  
 Temperature: 25.3°C  
 Operators:  
 Test Date: 14 July 2022

γ Range: 0 - 90DEG  
 γ Interval: 2.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
 Humidity: 65.0%  
 Test Distance: 6.265m [K=1.0000]  
 Remarks:

### AAI Figure

NAME: 99XLED614	TYPE: 99XLED614	WEIGHT: 1
SPEC.:	DIM.: F225	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle F175	Shielding Angle:



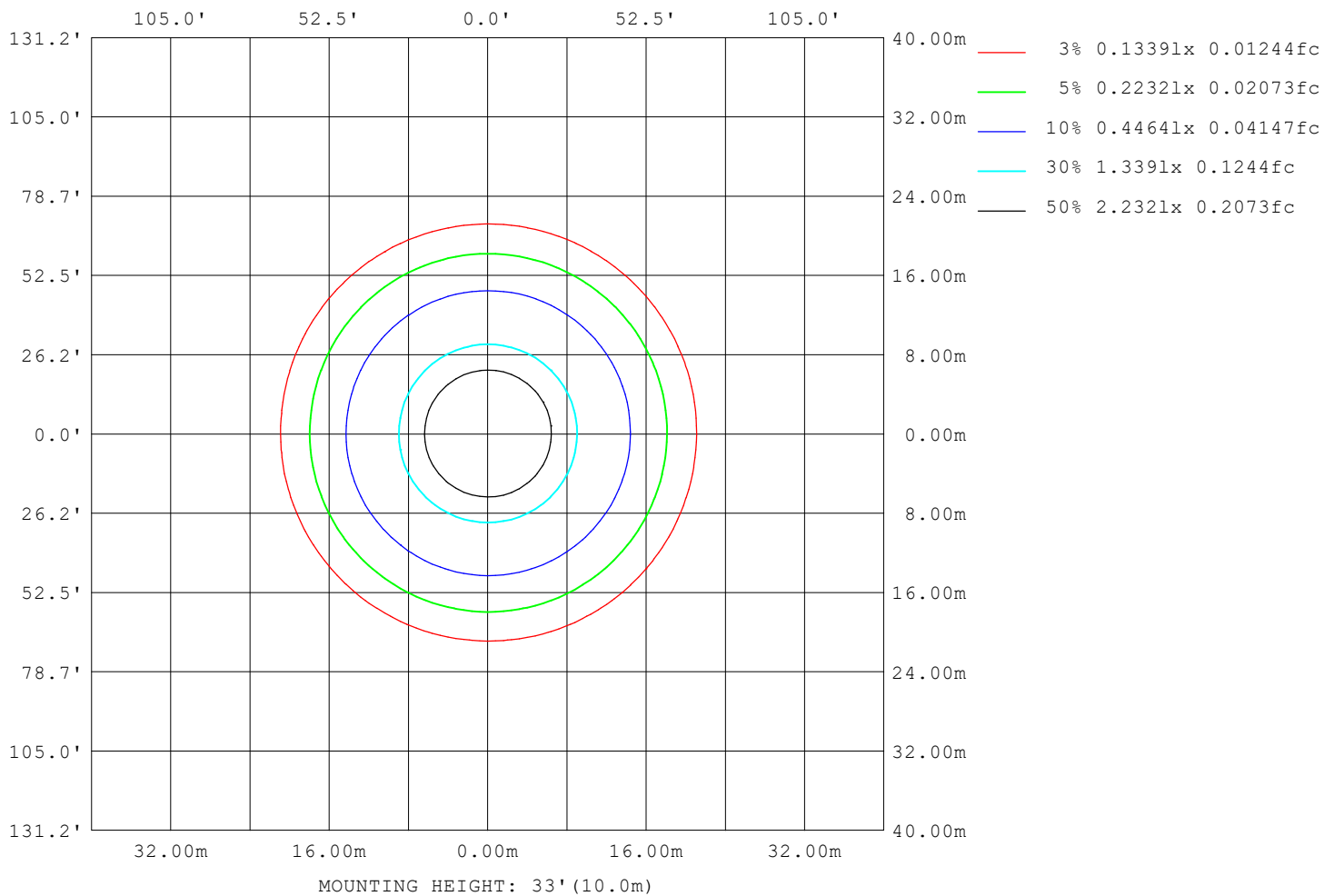
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: MEDIUM  
Temperature: 25.3°C  
Operators:  
Test Date: 14 July 2022

γ Range: 0 - 90DEG  
γ Interval: 2.5DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
Humidity: 65.0%  
Test Distance: 6.265m [K=1.0000]  
Remarks:

## ISOLUX DIAGRAM

NAME: 99XLED614	TYPE: 99XLED614	WEIGHT: 1
SPEC.:	DIM.: F225	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle F175	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: MEDIUM  
Temperature: 25.3°C  
Operators:  
Test Date: 14 July 2022

γ Range: 0 - 90DEG  
γ Interval: 2.5DEG  
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: 99XLED614	TYPE: 99XLED614	WEIGHT: 1
SPEC.:	DIM.: F225	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: circle F175	Shielding Angle:

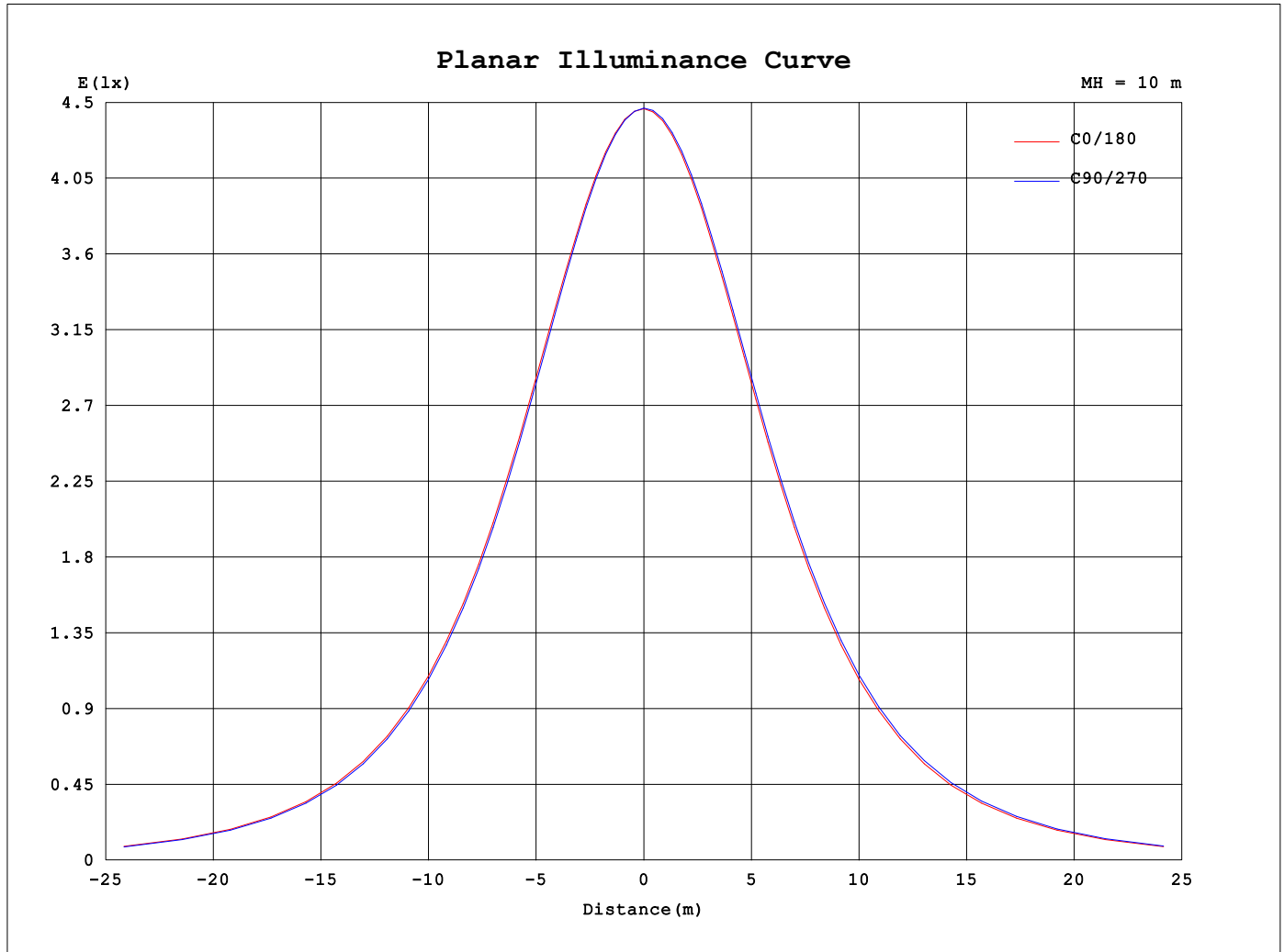
AvgL	cd/m2
L_0~180 (65) av	17411
L_0~180 (75) av	15521
L_0~180 (85) av	11866
L_90~270 (65) av	17522
L_90~270 (75) av	15150
L_90~270 (85) av	7583
L_45 (65) av	17492
L_45 (75) av	15400
L_45 (85) av	9174

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: MEDIUM  
Temperature:25.3°C  
Operators:  
Test Date:14 July 2022

γ Range: 0 - 90DEG  
γ Interval: 2.5DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
Humidity:65.0%  
Test Distance:6.265m [K=1.0000]  
Remarks:

# Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: MEDIUM  
 Temperature: 25.3°C  
 Operators:  
 Test Date: 14 July 2022

γ Range: 0 - 90DEG  
 γ Interval: 2.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.00.456  
 Humidity: 65.0%  
 Test Distance: 6.265m [K=1.0000]  
 Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 2.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.456
Humidity:65.0%
Test Distance:6.265m [K=1.0000]
Remarks:

```

```

γ Range: 0 - 90DEG
γ Interval: 2.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.456
Humidity:65.0%
Test Distance:6.265m [K=1.0000]
Remarks:

```