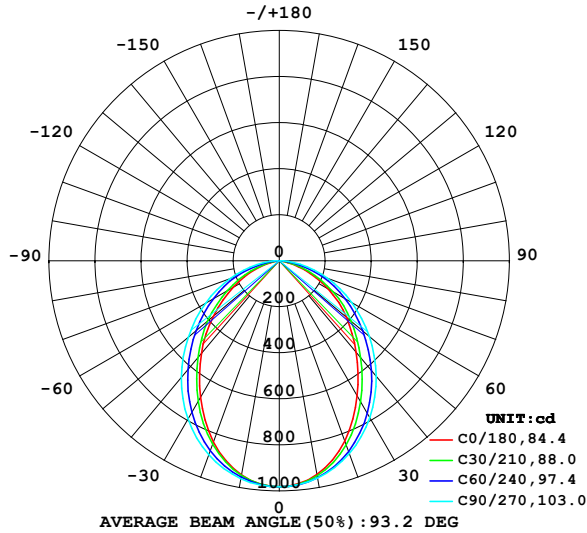


## LUMINAIRE PHOTOMETRIC TEST REPORT

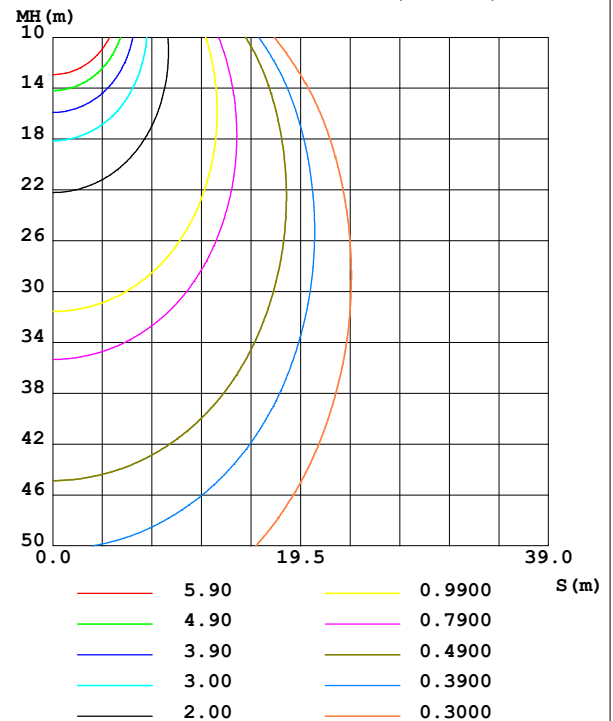
NAME: 93M20FL3040/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 900 x 20 x 40	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: paralelepiped	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	93M20FL3040/BL	Imax(cd)	981.8	S/MH(C0/180)	1.07
NOMINAL POWER(W)	30	LOR(%)	145.7	S/MH(C90/270)	1.21
RATED VOLTAGE(V)	48	TOTAL FLUX(lm)	2222.1	$\eta$ UP,DN(C0-180)	0.0,72.4
NOMINAL FLUX(lm)	1525	CIE CLASS	DIRECT	$\eta$ UP,DN(C180-360)	0.0,73.3
LAMPS INSIDE	1	$\eta$ up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	48	$\eta$ down (%)	145.7	CIBSE SHR MAX	1.25

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:  
Test Date:03 November 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:

### ZONAL FLUX DIAGRAM

#### ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	942.9	952.5	958.0	947.0	944.5	950.0	960.9	956.8	0- 10	92.27	92.27	4.15, 6.05
20	833.1	866.7	890.3	855.4	837.1	861.7	896.2	873.9	10- 20	257.2	349.5	15.7, 22.9
30	677.5	736.5	786.3	722.8	683.8	730.7	793.7	745.4	20- 30	369.3	718.8	32.4, 47.1
40	520.3	585.4	655.0	572.5	526.8	580.6	662.1	594.0	30- 40	413.5	1132	51, 74.3
50	380.8	437.7	509.5	427.4	372.3	434.7	516.7	445.6	40- 50	396.3	1529	68.8, 100
60	244.4	301.3	363.1	292.9	231.9	296.6	369.5	306.1	50- 60	331.0	1860	83.7, 122
70	117.1	161.0	223.0	157.2	112.3	160.0	228.7	165.7	60- 70	229.6	2089	94, 137
80	19.08	42.84	94.24	41.77	19.33	44.11	98.90	46.39	70- 80	112.4	2202	99.1, 144
90	0.9075	1.230	4.892	1.271	0.8073	1.140	6.697	1.117	80- 90	20.29	2222	100, 146
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): 1335.9 lm

%lum = 60.1%

%lamp = 87.6%

Conical surface Flux(130deg): 1988.7 lm

%lum = 89.5%

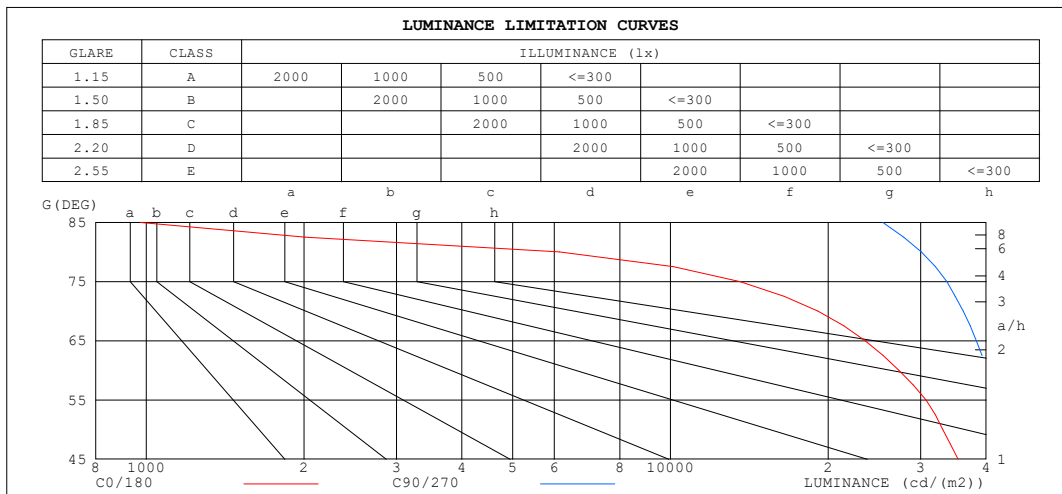
%lamp = 130.4%

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:  
Test Date:03 November 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: 93M20FL3040/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 900 x 20 x 40	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: paralelepiped	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	975	25427
80	6133	30098
75	13580	33649
70	19117	36163
65	23525	38324
60	27288	40276
55	30722	42176
50	33075	43958
45	35350	45734

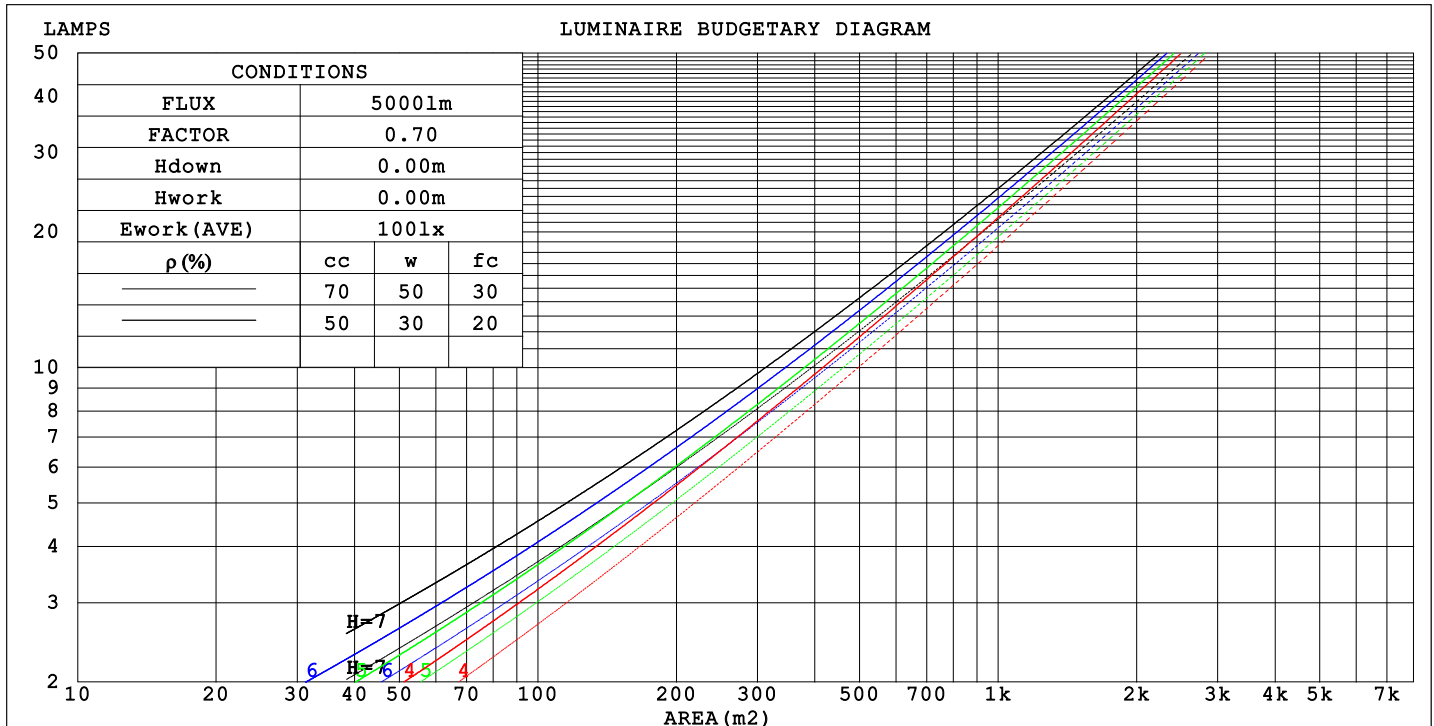
C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3°C  
 Operators:  
 Test Date: 03 November 2022

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: 93M20FL3040/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 900 x 20 x 40	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: paralelepiped	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: HIGH  
Temperature:25.3°C  
Operators:  
Test Date:03 November 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: 93M20FL3040/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 900 x 20 x 40	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: paralelepiped	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	.409	.232	.074	.399	.227	.072	.379	.218	.070	.362	.209	.067	.346	.200	.065	
2.0	.392	.215	.066	.383	.211	.065	.366	.203	.063	.350	.197	.062	.336	.190	.060	
3.0	.366	.195	.058	.359	.192	.058	.344	.186	.057	.330	.181	.055	.318	.176	.054	
4.0	.341	.177	.052	.334	.175	.052	.321	.170	.051	.309	.166	.050	.298	.162	.049	
5.0	.317	.162	.047	.311	.160	.047	.300	.156	.046	.289	.152	.045	.279	.149	.045	
6.0	.296	.148	.042	.291	.147	.042	.280	.144	.042	.271	.141	.041	.262	.138	.041	
7.0	.277	.137	.039	.272	.135	.039	.263	.133	.038	.254	.130	.038	.246	.128	.038	
8.0	.259	.127	.036	.255	.126	.036	.247	.123	.035	.239	.121	.035	.232	.119	.035	
9.0	.244	.118	.033	.240	.117	.033	.233	.115	.033	.226	.113	.032	.219	.111	.032	
10.0	.230	.110	.031	.227	.109	.031	.220	.108	.030	.214	.106	.030	.208	.104	.030	

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	.278	.278	.278	.237	.237	.237	.162	.162	.162	.093	.093	.093	.030	.030	.030	
1.0	.260	.228	.199	.222	.196	.171	.152	.135	.119	.088	.078	.069	.028	.025	.022	
2.0	.246	.192	.147	.211	.166	.127	.145	.115	.089	.083	.067	.052	.027	.022	.017	
3.0	.234	.166	.112	.201	.144	.097	.138	.100	.068	.080	.058	.040	.026	.019	.013	
4.0	.223	.147	.088	.191	.127	.077	.132	.088	.054	.076	.052	.032	.025	.017	.010	
5.0	.212	.131	.071	.182	.114	.062	.126	.079	.044	.073	.047	.026	.023	.015	.009	
6.0	.202	.119	.059	.174	.103	.052	.120	.072	.036	.070	.042	.022	.022	.014	.007	
7.0	.192	.109	.050	.166	.094	.044	.114	.066	.031	.066	.039	.018	.021	.013	.006	
8.0	.183	.100	.043	.158	.087	.038	.109	.061	.027	.064	.036	.016	.021	.012	.005	
9.0	.175	.093	.038	.151	.081	.033	.104	.057	.023	.061	.034	.014	.020	.011	.005	
10.0	.167	.087	.034	.144	.075	.029	.100	.053	.021	.058	.031	.012	.019	.010	.004	

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:  
Test Date:03 November 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: 93M20FL3040/BL					TYPE:			WEIGHT: 1			
SPEC.:					DIM.: 900 x 20 x 40			SERIAL No.: 0			
MFR.: Elmark Industries JSC					SUR.: paralelepiped			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	22.7	24.1	23.0	24.3	24.5	24.4	25.9	24.7	26.1	26.3
	3H	23.6	24.9	23.8	25.1	25.3	25.9	27.3	26.2	27.5	27.7
	4H	23.7	25.0	24.1	25.2	25.5	26.5	27.8	26.8	28.0	28.3
	6H	23.7	24.9	24.1	25.2	25.5	27.0	28.1	27.3	28.4	28.7
	8H	23.7	24.8	24.0	25.1	25.4	27.1	28.2	27.4	28.5	28.8
	12H	23.6	24.7	24.0	25.0	25.3	27.2	28.3	27.5	28.5	28.8
4H	2H	23.4	24.7	23.7	24.9	25.2	24.8	26.0	25.1	26.3	26.5
	3H	24.4	25.5	24.7	25.8	26.1	26.5	27.6	26.8	27.8	28.1
	4H	24.6	25.6	25.0	25.9	26.3	27.2	28.2	27.6	28.5	28.8
	6H	24.7	25.5	25.0	25.9	26.2	27.7	28.6	28.1	29.0	29.3
	8H	24.6	25.4	25.0	25.8	26.2	27.9	28.8	28.3	29.1	29.5
	12H	24.6	25.3	25.0	25.7	26.1	28.1	28.8	28.5	29.2	29.6
8H	4H	24.9	25.7	25.3	26.1	26.4	27.2	28.1	27.6	28.4	28.8
	6H	24.9	25.6	25.4	26.0	26.5	27.9	28.6	28.3	29.0	29.4
	8H	24.9	25.5	25.4	25.9	26.4	28.1	28.7	28.6	29.1	29.6
	12H	24.9	25.4	25.3	25.8	26.3	28.3	28.8	28.8	29.2	29.7
12H	4H	24.9	25.6	25.3	26.0	26.4	27.2	27.9	27.6	28.3	28.7
	6H	25.0	25.6	25.4	26.0	26.4	27.9	28.4	28.3	28.9	29.3
	8H	24.9	25.5	25.4	25.9	26.4	28.1	28.6	28.6	29.1	29.5
Variations with the observer position at spacings(CIE Pub.117):											
S = 1.0H		+ 0.3 / - 0.4					+ 0.2 / - 0.2				
1.5H		+ 0.2 / - 0.4					+ 0.2 / - 0.3				
2.0H		+ 0.4 / - 0.7					+ 0.3 / - 0.4				

CIE Pub.117, 1525 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 1.5)  
Area: 0.018 m2

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:  
Test Date:03 November 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: 93M20FL3040/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 900 x 20 x 40	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: paralelepiped	Shielding Angle:

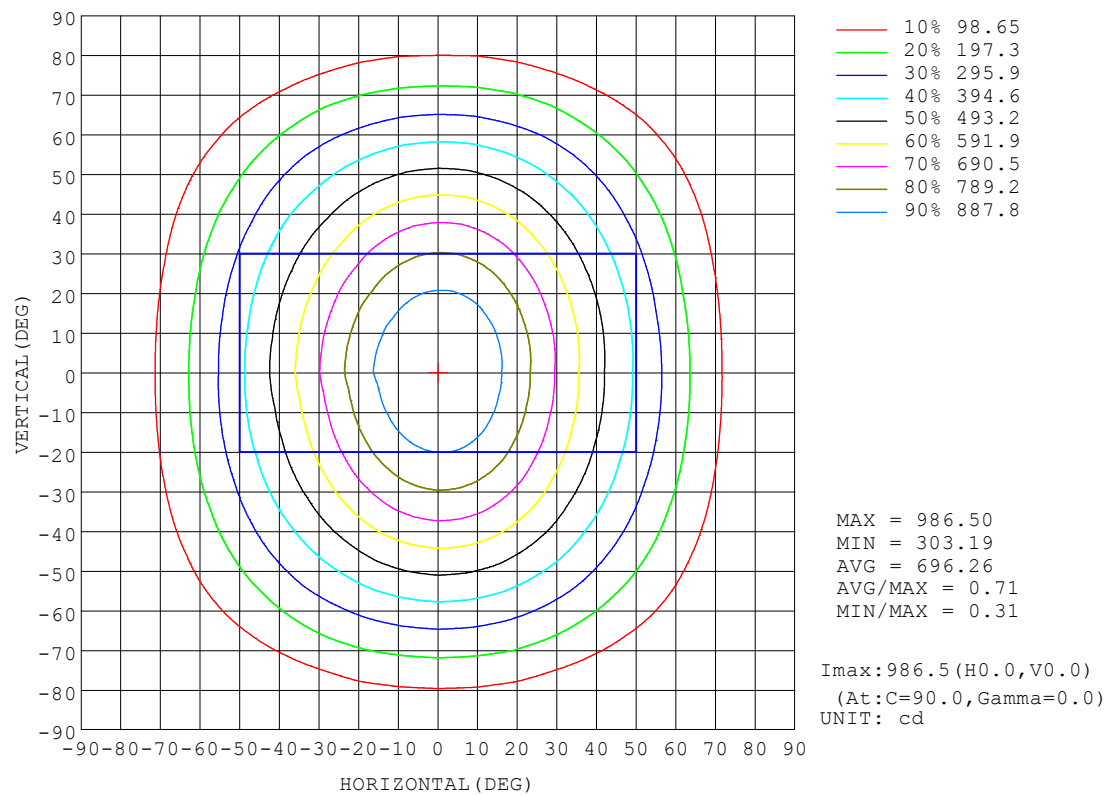
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	89	73	63	88	73	63	86	72	63	54
0.80	104	88	78	102	87	78	100	86	77	68
1.00	116	101	91	114	100	90	111	102	90	80
1.25	126	112	102	124	111	101	120	109	100	90
1.50	133	119	110	130	118	109	126	116	108	98
2.00	142	131	122	139	129	121	134	126	119	108
2.50	147	137	129	144	135	127	139	131	125	113
3.00	152	143	135	149	140	134	143	136	131	119
4.00	157	149	143	154	147	141	148	142	137	125
5.00	160	154	148	157	151	146	150	146	142	129
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: HIGH  
Temperature: 25.3°C  
Operators:  
Test Date: 03 November 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: 93M20FL3040/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 900 x 20 x 40	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: paralelepiped	Shielding Angle:



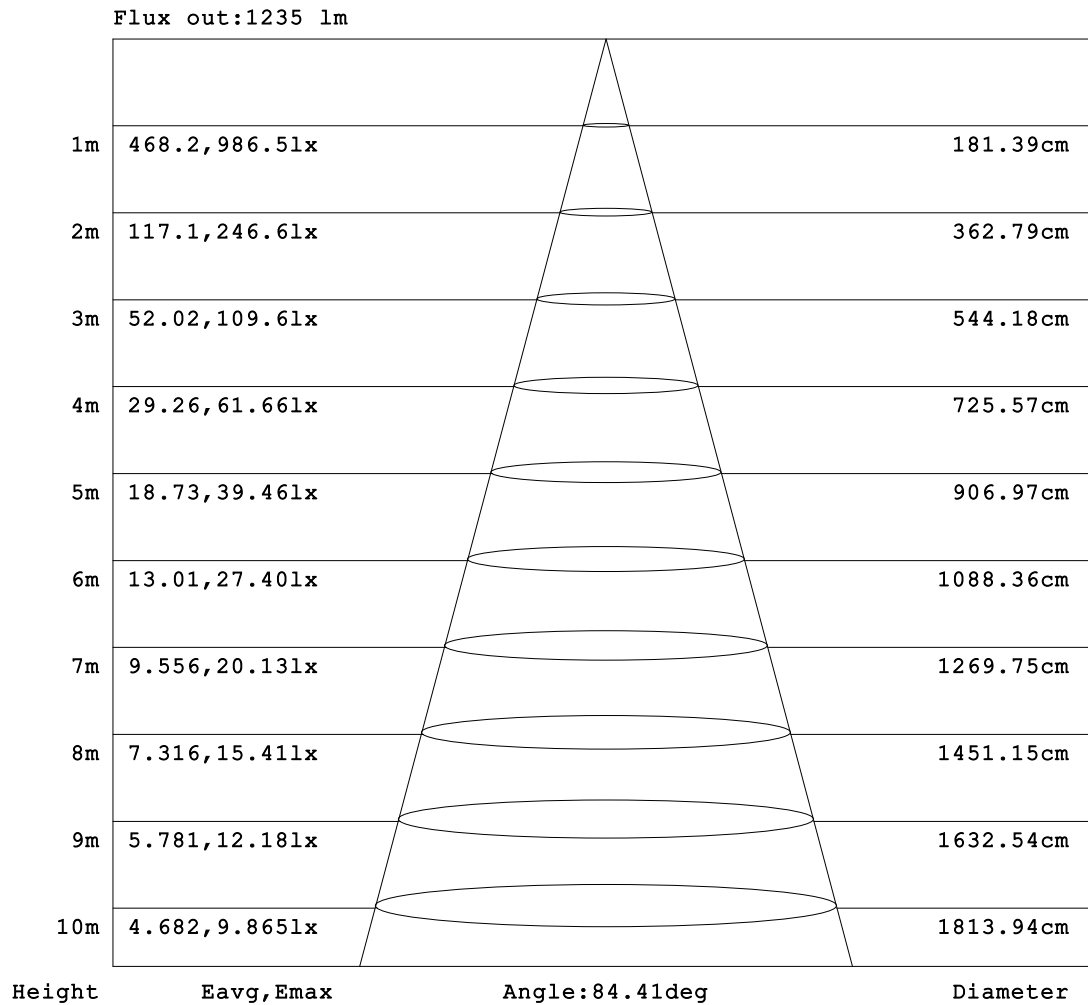
C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:  
Test Date:03 November 2022

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: 93M20FL3040/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 900 x 20 x 40	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: paralelepiped	Shielding Angle:



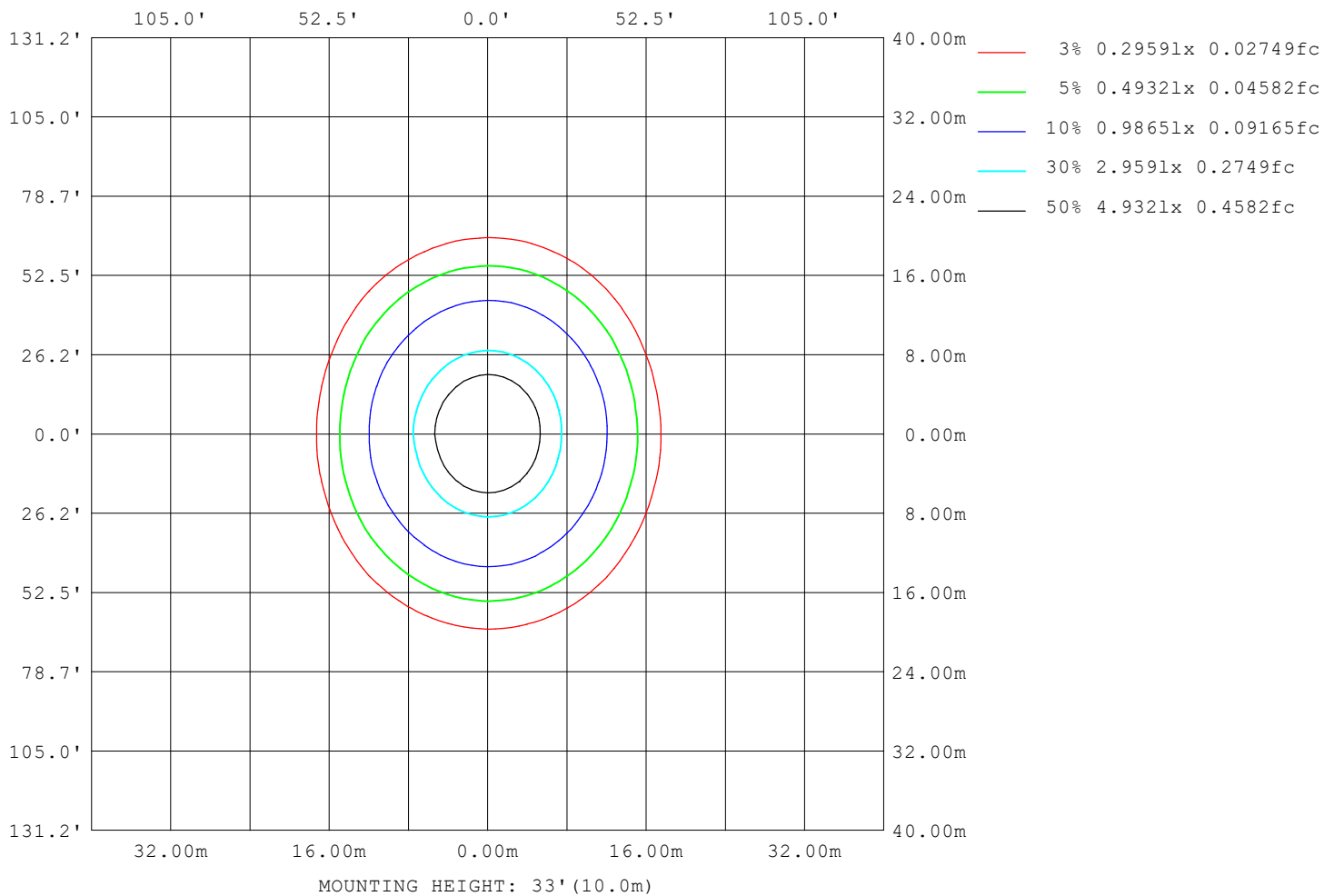
**Note:** The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3°C  
 Operators:  
 Test Date: 03 November 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: 93M20FL3040/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 900 x 20 x 40	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: paralelepiped	Shielding Angle:



C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3°C  
 Operators:  
 Test Date: 03 November 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: 93M20FL3040/BL	TYPE:	WEIGHT: 1
SPEC.:	DIM.: 900 x 20 x 40	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: paralelepiped	Shielding Angle:

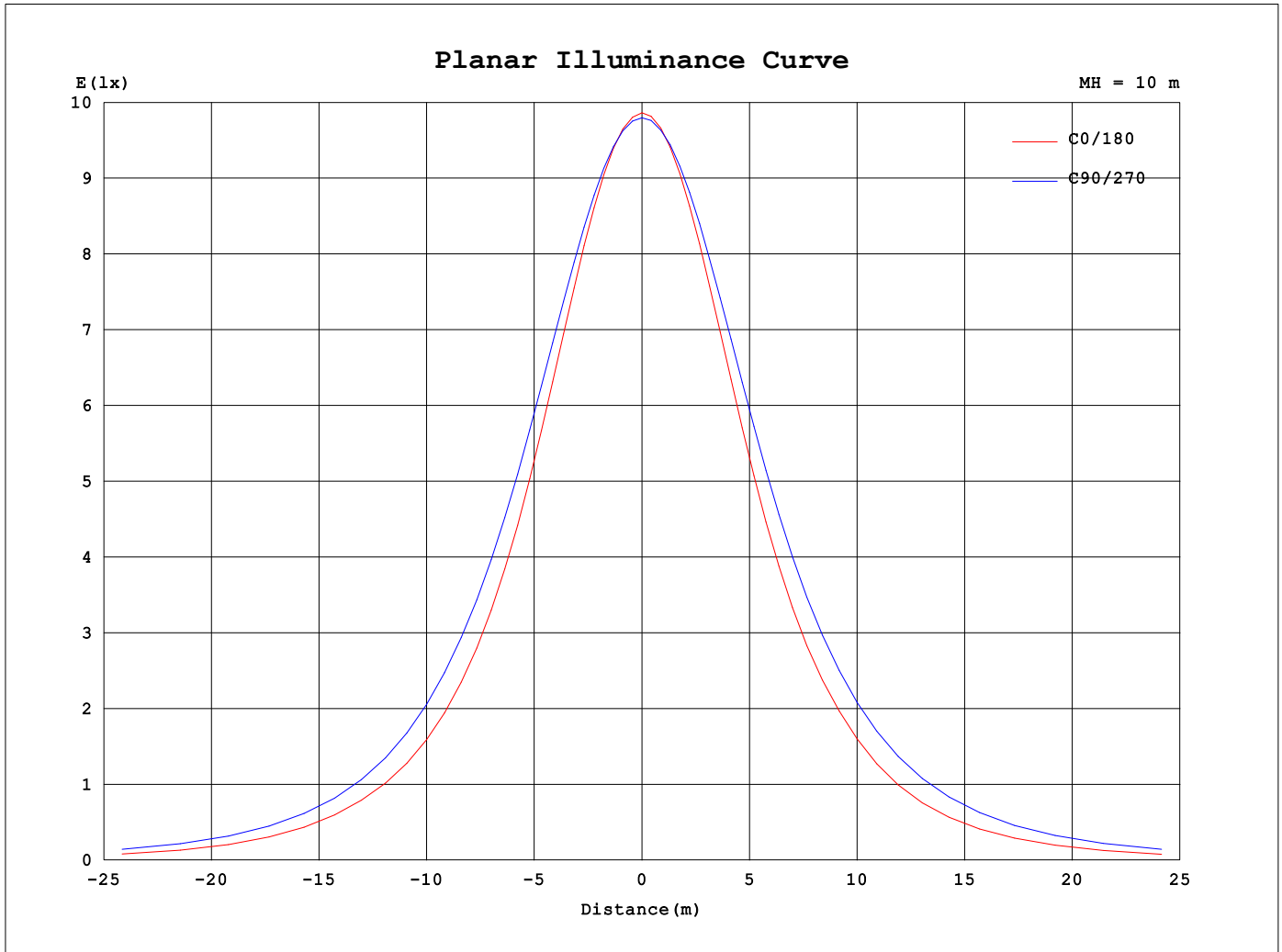
AvgL	cd/m2
L_0~180 (65) av	22847
L_0~180 (75) av	13308
L_0~180 (85) av	848
L_90~270 (65) av	38791
L_90~270 (75) av	34225
L_90~270 (85) av	26875
L_45 (65) av	30047
L_45 (75) av	20972
L_45 (85) av	3569

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:  
Test Date:03 November 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: HIGH  
 Temperature: 25.3°C  
 Operators:  
 Test Date: 03 November 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:

```

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:

```