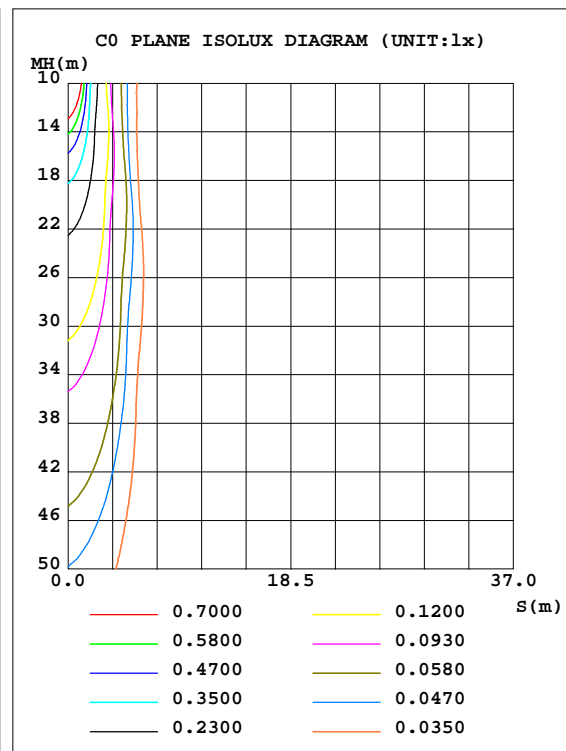
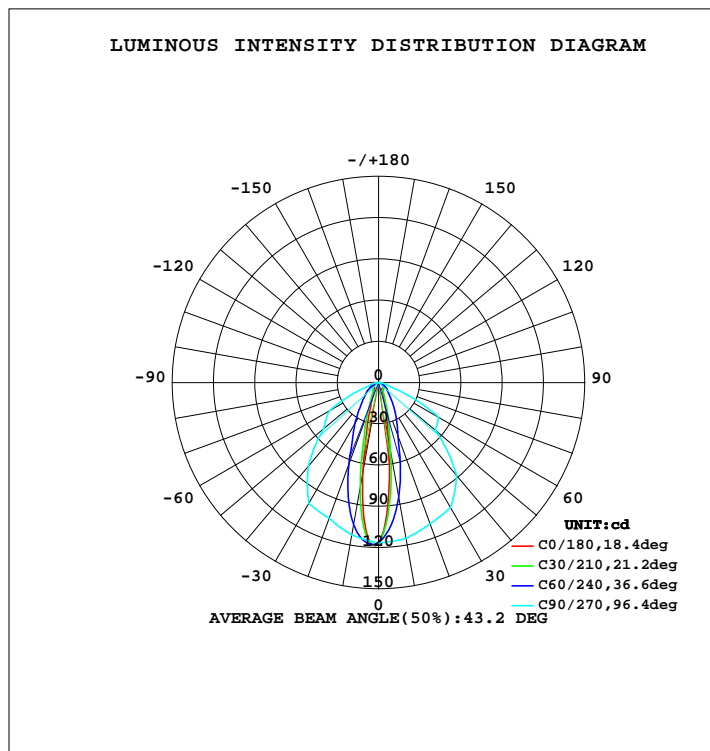




## LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: REL20-N (Single head)	TYPE:Emergency light	WEIGHT:
SPEC.:1W LED	DIM.:	SERIAL No.:
	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 61.11 lm/W
MODEL	REL20-N (Single head)	I <sub>max</sub> (cd)	118.5	S/MH(C0/180)	0.37	
NOMINAL POWER(W)	1.5	LOR(%)	100.0	S/MH(C90/270)	1.26	
RATED VOLTAGE(V)	4	TOTAL FLUX(lm)	93.115	h UP,DN(C0-180)	0.0,50.3	
NOMINAL FLUX(lm)	93.1149	CIE CLASS	DIRECT	h UP,DN(C180-360)	0.0,49.7	
LAMPS INSIDE	1	h up(%)	0.0	CIBSE SHR NOM	0.00	
TEST VOLTAGE(V)		h down(%)	100.0	CIBSE SHR MAX	1.00	



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Harris Chen  
Test Date:

g Range: 0 - 90DEG  
g Interval: 0.5DEG  
Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.0.287  
Humidity:65.0%  
Test Distance:13.450m [K=1.0000]  
Remarks:

## ZONAL FLUX DIAGRAM

## ZONAL FLUX DIAGRAM:

g	C0	C45	C90	C135	C180	C225	C270	C315	g	F zone	F total	%lum,lamp
5	84.28	96.76	115.9	113.1	107.3	113.3	114.7	95.15	0- 5	2.642	2.642	2.84,2.84
10	40.02	65.54	115.0	89.29	65.95	90.83	112.6	61.96	5- 10	6.550	9.192	9.87,9.87
15	20.70	38.55	112.1	55.65	31.72	59.39	108.8	35.79	10- 15	7.998	17.19	18.5,18.5
20	10.50	24.95	109.3	33.37	15.76	36.33	105.1	22.65	15- 20	8.152	25.34	27.2,27.2
25	7.064	14.50	107.1	20.34	9.439	23.35	103.3	13.00	20- 25	7.981	33.32	35.8,35.8
30	5.342	9.639	104.8	12.58	7.042	14.32	101.5	9.017	25- 30	7.855	41.18	44.2,44.2
35	5.604	7.467	96.66	8.985	5.561	10.11	90.45	7.337	30- 35	7.629	48.81	52.4,52.4
40	5.384	6.655	88.51	7.137	5.471	7.956	79.44	6.745	35- 40	7.190	56.00	60.1,60.1
45	5.561	6.576	71.19	6.918	5.421	6.851	65.76	6.212	40- 45	6.753	62.75	67.4,67.4
50	4.977	6.033	53.87	7.286	5.188	6.404	52.09	5.909	45- 50	6.289	69.04	74.1,74.1
55	4.341	5.600	52.16	6.036	4.320	5.797	46.80	5.789	50- 55	5.818	74.86	80.4,80.4
60	4.329	6.112	50.44	5.804	3.563	5.785	41.51	6.102	55- 60	5.292	80.15	86.1,86.1
65	3.554	6.190	29.68	6.158	4.503	6.828	24.80	5.602	60- 65	4.457	84.60	90.9,90.9
70	3.332	5.189	8.922	5.583	3.330	6.269	8.092	5.163	65- 70	3.091	87.70	94.2,94.2
75	3.170	3.932	5.894	4.774	3.180	4.891	5.333	3.931	70- 75	2.083	89.78	96.4,96.4
80	3.250	3.047	2.867	3.620	3.170	3.737	2.574	2.907	75- 80	1.678	91.46	98.2,98.2
85	3.734	1.054	0	1.176	3.786	1.257	0	0.9585	80- 85	1.206	92.66	99.5,99.5
90	4.240	0	0	0	2.332	0	0	0	85- 90	0.4519	93.11	100,100
95									90- 95			
100									95-100			
105									100-105			
110									105-110			
115									110-115			
120									115-120			
125									120-125			
130									125-130			
135									130-135			
140									135-140			
145									140-145			
150									145-150			
155									150-155			
160									155-160			
165									160-165			
170									165-170			
175									170-175			
180									175-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

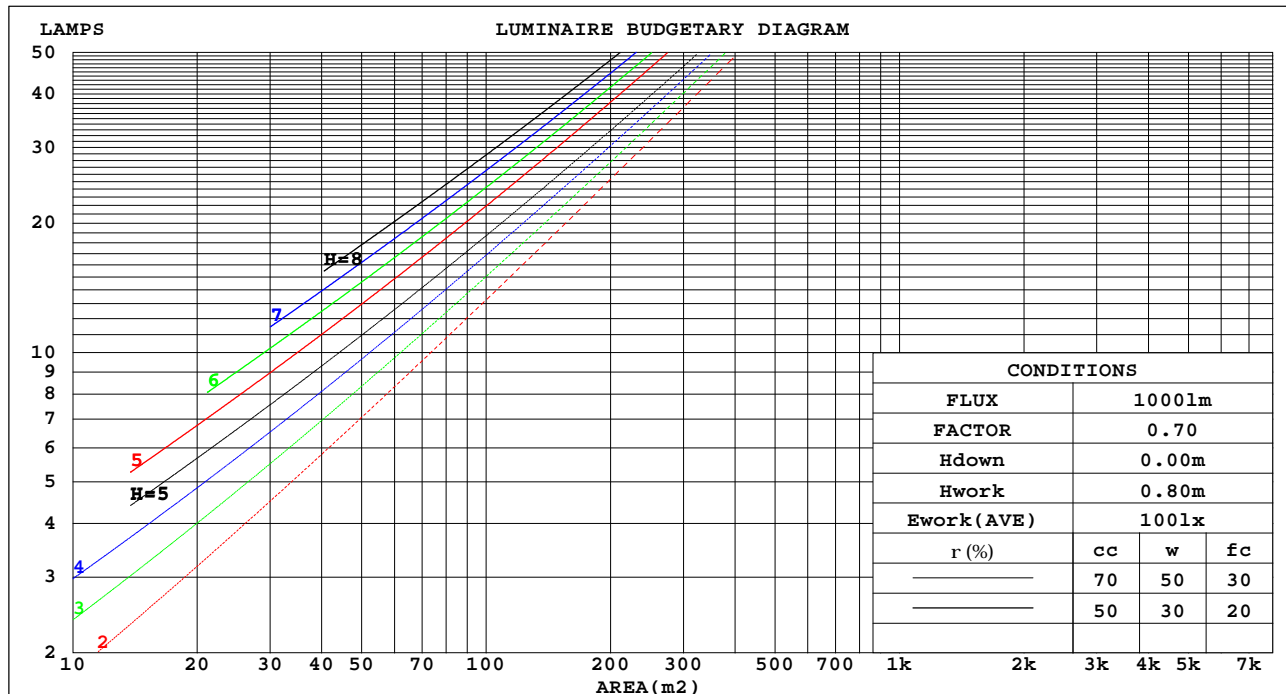
C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Harris Chen  
 Test Date:

g Range: 0 - 90DEG  
 g Interval: 0.5DEG  
 Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.0.287  
 Humidity:65.0%  
 Test Distance:13.450m [K=1.0000]  
 Remarks:

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

NAME: REL20-N (Single head)	TYPE:Emergency light	WEIGHT:
SPEC.:1W LED	DIM.:	SERIAL No.:
	SUR.:	PROTECTION ANGLE:

rcc	80%			70%			50%			30%			10%			0
rw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
rfe	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio															



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Harris Chen  
 Test Date:

g Range: 0 - 90DEG  
 g Interval: 0.5DEG  
 Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.0.287  
 Humidity:65.0%  
 Test Distance:13.450m [K=1.0000]  
 Remarks:

## WEC AND CCEC

NAME: REL20-N (Single head)	TYPE:Emergency light	WEIGHT:
SPEC.:1W LED	DIM.:	SERIAL No.:
	SUR.:	PROTECTION ANGLE:

rcc	80%			70%			50%			30%			10%			0	
rw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
rfc	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.263	.150	.047	.256	.146	.046	.243	.139	.045	.231	.133	.043	.220	.127	.041		
2.0	.246	.135	.041	.240	.132	.041	.229	.127	.040	.219	.123	.038	.209	.118	.037		
3.0	.229	.122	.036	.224	.120	.036	.214	.116	.035	.205	.112	.034	.196	.109	.034		
4.0	.212	.110	.032	.208	.109	.032	.199	.106	.032	.191	.103	.031	.184	.100	.030		
5.0	.198	.101	.029	.193	.099	.029	.186	.097	.028	.179	.094	.028	.172	.092	.028		
6.0	.184	.092	.026	.181	.091	.026	.174	.089	.026	.168	.087	.026	.162	.085	.025		
7.0	.172	.085	.024	.169	.084	.024	.163	.083	.024	.158	.081	.024	.152	.079	.023		
8.0	.162	.079	.022	.159	.078	.022	.154	.077	.022	.149	.075	.022	.144	.074	.022		
9.0	.152	.074	.021	.150	.073	.021	.145	.072	.020	.141	.070	.020	.136	.069	.020		
10.0	.144	.069	.019	.142	.068	.019	.137	.067	.019	.133	.066	.019	.129	.065	.019		

rcc	80%			70%			50%			30%			10%			0
rw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
rfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.177	.157	.138	.151	.134	.119	.104	.092	.082	.060	.053	.048	.019	.017	.015	
2.0	.166	.132	.104	.142	.114	.089	.098	.079	.062	.056	.046	.037	.018	.015	.012	
3.0	.157	.114	.080	.134	.098	.069	.092	.068	.049	.053	.040	.029	.017	.013	.009	
4.0	.148	.100	.064	.127	.087	.055	.087	.060	.039	.050	.035	.023	.016	.012	.008	
5.0	.140	.089	.052	.120	.077	.045	.083	.054	.032	.048	.032	.019	.015	.010	.006	
6.0	.132	.081	.043	.114	.070	.038	.078	.049	.027	.046	.029	.016	.015	.009	.005	
7.0	.125	.073	.037	.108	.064	.032	.075	.045	.023	.043	.026	.014	.014	.009	.004	
8.0	.119	.067	.032	.103	.058	.028	.071	.041	.020	.041	.024	.012	.013	.008	.004	
9.0	.113	.062	.028	.098	.054	.024	.068	.038	.017	.039	.022	.010	.013	.007	.003	
10.0	.108	.058	.025	.093	.050	.021	.065	.035	.015	.038	.021	.009	.012	.007	.003	

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Harris Chen  
Test Date:

g Range: 0 - 90DEG  
g Interval: 0.5DEG  
Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.0.287  
Humidity:65.0%  
Test Distance:13.450m [K=1.0000]  
Remarks:

UGR(Unified Glare Rating) Table

NAME: REL20-N (Single head)					TYPE:Emergency light					WEIGHT:				
SPEC.:1W LED					DIM.:					SERIAL No.:				
					SUR.:					PROTECTION 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					23.9	25.2	24.2	25.4	25.6	36.2	37.5	36.5	37.7	37.9
3H					26.2	27.4	26.5	27.6	27.8	37.0	38.1	37.2	38.4	38.6
4H					27.6	28.7	27.9	29.0	29.2	37.0	38.2	37.3	38.4	38.6
6H					29.4	30.5	29.8	30.8	31.0	37.1	38.1	37.4	38.4	38.7
8H					30.7	31.7	31.0	32.0	32.2	37.0	38.1	37.4	38.3	38.6
12H					32.3	33.3	32.6	33.5	33.8	37.0	38.0	37.3	38.3	38.6
4H 2H					25.7	26.8	26.0	27.1	27.3	36.0	37.1	36.3	37.4	37.6
3H					28.0	29.0	28.3	29.3	29.6	36.7	37.7	37.1	38.0	38.3
4H					29.4	30.3	29.8	30.6	30.9	36.8	37.7	37.2	38.1	38.4
6H					31.3	32.1	31.6	32.4	32.8	36.9	37.7	37.3	38.1	38.4
8H					32.4	33.2	32.8	33.5	33.9	36.9	37.7	37.3	38.0	38.4
12H					34.0	34.7	34.4	35.1	35.5	36.9	37.6	37.3	38.0	38.3
8H 4H					30.1	30.8	30.5	31.2	31.5	36.8	37.5	37.2	37.9	38.3
6H					32.1	32.7	32.5	33.1	33.5	36.9	37.5	37.4	37.9	38.4
8H					33.4	34.0	33.9	34.4	34.8	36.9	37.5	37.4	37.9	38.4
12H					35.2	35.6	35.6	36.1	36.6	36.9	37.4	37.4	37.8	38.3
12H 4H					30.1	30.8	30.5	31.2	31.6	36.8	37.5	37.2	37.8	38.2
6H					32.3	32.8	32.7	33.2	33.7	36.9	37.5	37.4	37.9	38.4
8H					33.6	34.1	34.1	34.6	35.0	37.0	37.4	37.4	37.9	38.4
Variations with the observer position at spacings:														
S = 1.0H					+ 0.2 / - 0.2					+ 2.4 / - 2.4				
1.5H					+ 0.2 / - 0.3					+ 3.6 / - 4.8				
2.0H					+ 0.4 / - 0.5					+ 4.8 / - 6.4				

CIE Pub.117 Corrected 93.11 lm Total Lamp Luminous Flux.(8log(F/F0) = -8.2)

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Harris Chen  
 Test Date:

g Range: 0 - 90DEG  
 g Interval: 0.5DEG  
 Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.0.287  
 Humidity:65.0%  
 Test Distance:13.450m [K=1.0000]  
 Remarks:

## UTILIZATION FACTORS TABLE

NAME: REL20-N (Single head)	TYPE:Emergency light	WEIGHT:
SPEC.:1W LED	DIM.:	SERIAL No.:
	SUR.:	PROTECTION 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) x RCR = 5									
k = 0.60	67	57	51	66	57	51	65	56	51	45
0.80	76	66	60	75	66	60	74	65	60	54
1.00	83	74	68	82	74	68	80	75	67	61
1.25	90	81	75	88	80	75	86	79	74	67
1.50	94	86	80	92	85	79	90	83	78	72
2.00	99	92	87	98	91	86	94	89	85	78
2.50	103	96	91	101	95	90	97	92	88	81
3.00	105	100	95	103	98	94	99	95	92	84
4.00	109	104	100	106	102	99	102	99	96	88
5.00	111	107	103	108	105	102	104	101	99	90
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004										
Suspended										
SHRNM = 1.25										

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Harris Chen  
 Test Date:

g Range: 0 - 90DEG  
 g Interval: 0.5DEG  
 Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.0.287  
 Humidity:65.0%  
 Test Distance:13.450m [K=1.0000]  
 Remarks:

## ISOCANDELA DIAGRAM

NAME: REL20-N (Single head)	TYPE:Emergency light	WEIGHT:
SPEC.:1W LED	DIM.:	SERIAL No.:
	SUR.:	PROTECTION ANGLE:

Conical surface Flux(90deg):

62.749 lm

%lum = 67.4%

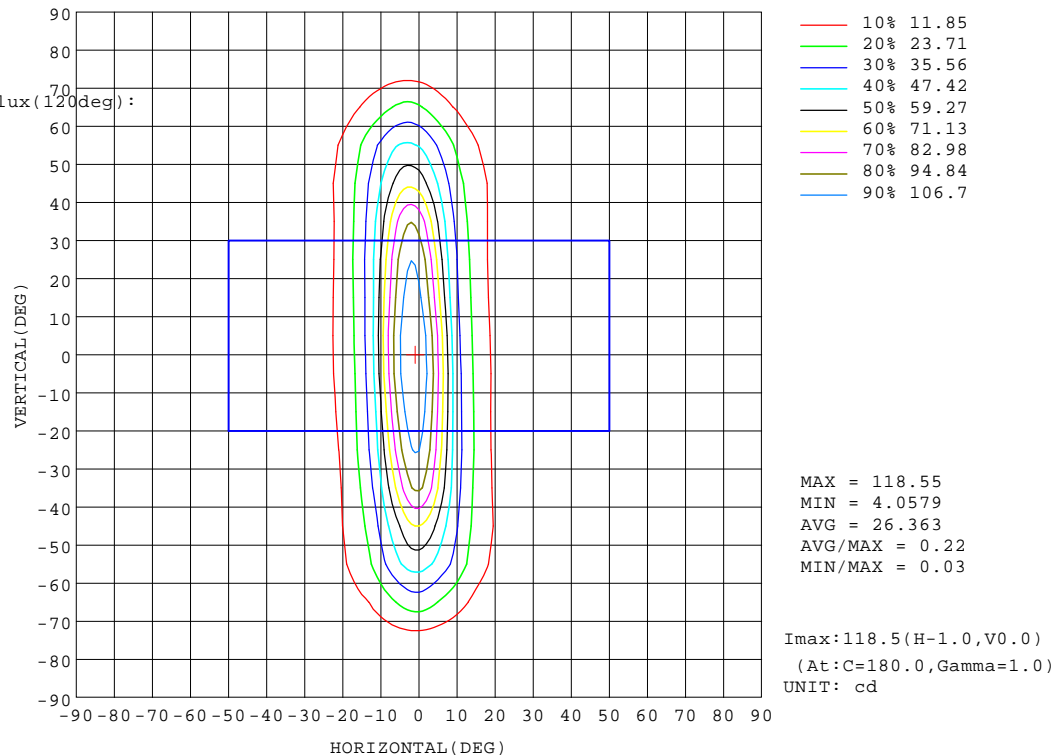
%lamp = 67.4%

Conical surface Flux(120deg):

80.148 lm

%lum = 86.1%

%lamp = 86.1%

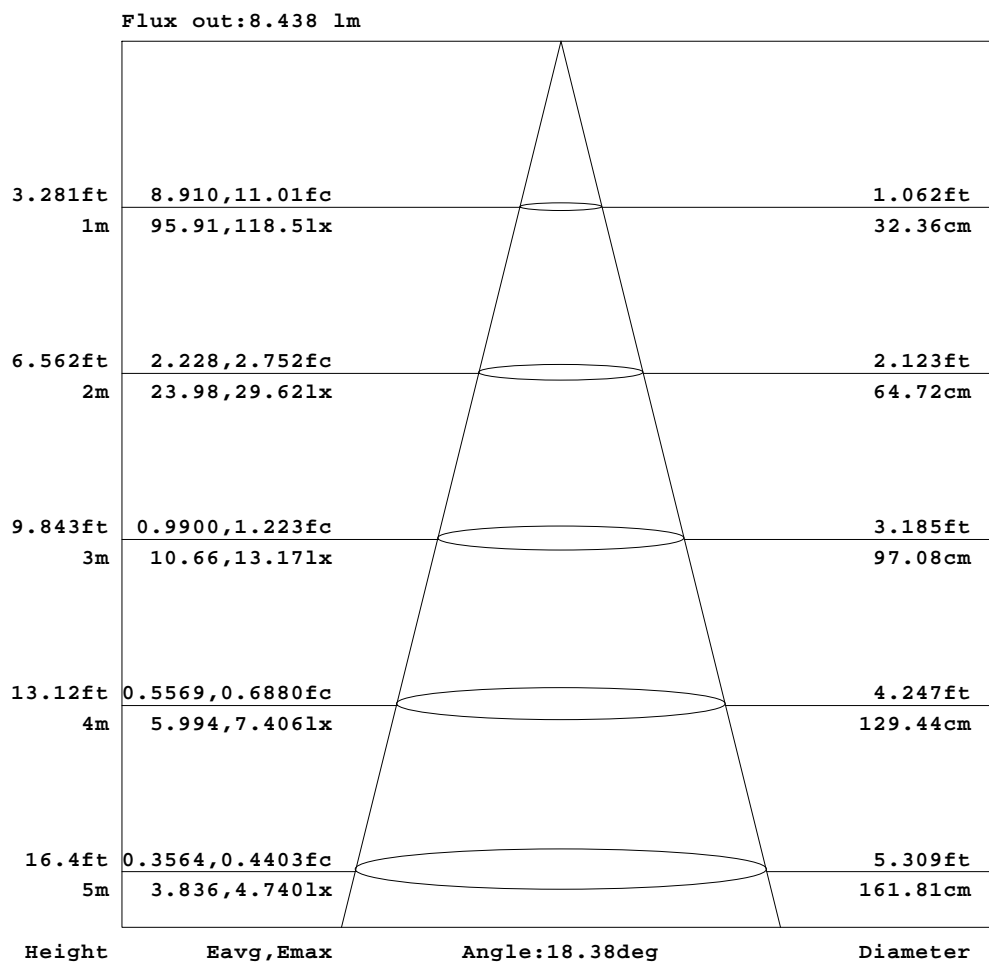


C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Harris Chen  
Test Date:

g Range: 0 - 90DEG  
g Interval: 0.5DEG  
Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.0.287  
Humidity:65.0%  
Test Distance:13.450m [K=1.0000]  
Remarks:

## AAI Figure

NAME: REL20-N (Single head)	TYPE:Emergency light	WEIGHT:
SPEC.:1W LED	DIM.:	SERIAL No.:
	SUR.:	PROTECTION ANGLE:



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

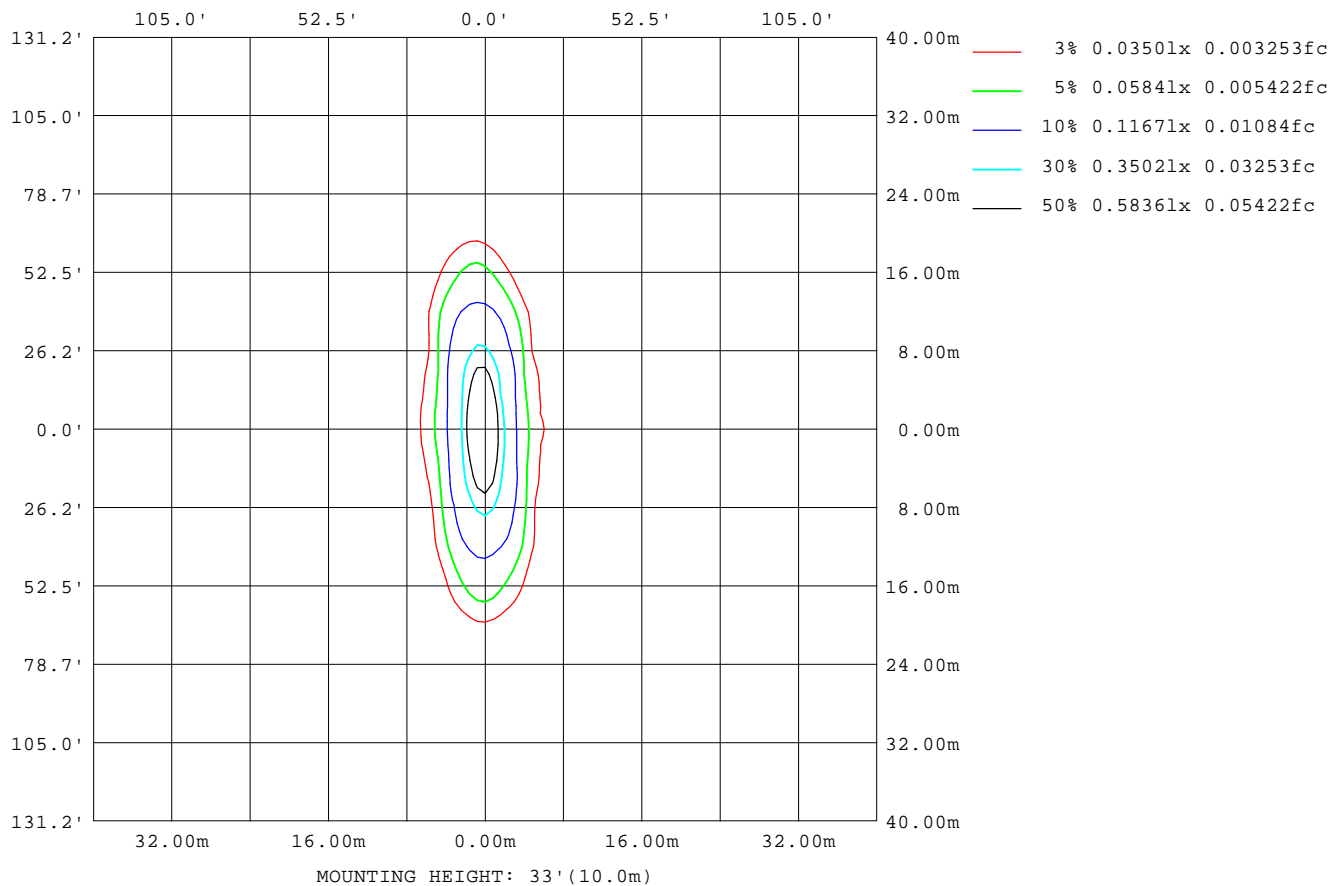
C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Harris Chen  
Test Date:

g Range: 0 - 90DEG  
g Interval: 0.5DEG  
Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.0.287  
Humidity:65.0%  
Test Distance:13.450m [K=1.0000]  
Remarks:



## ISOLUX DIAGRAM

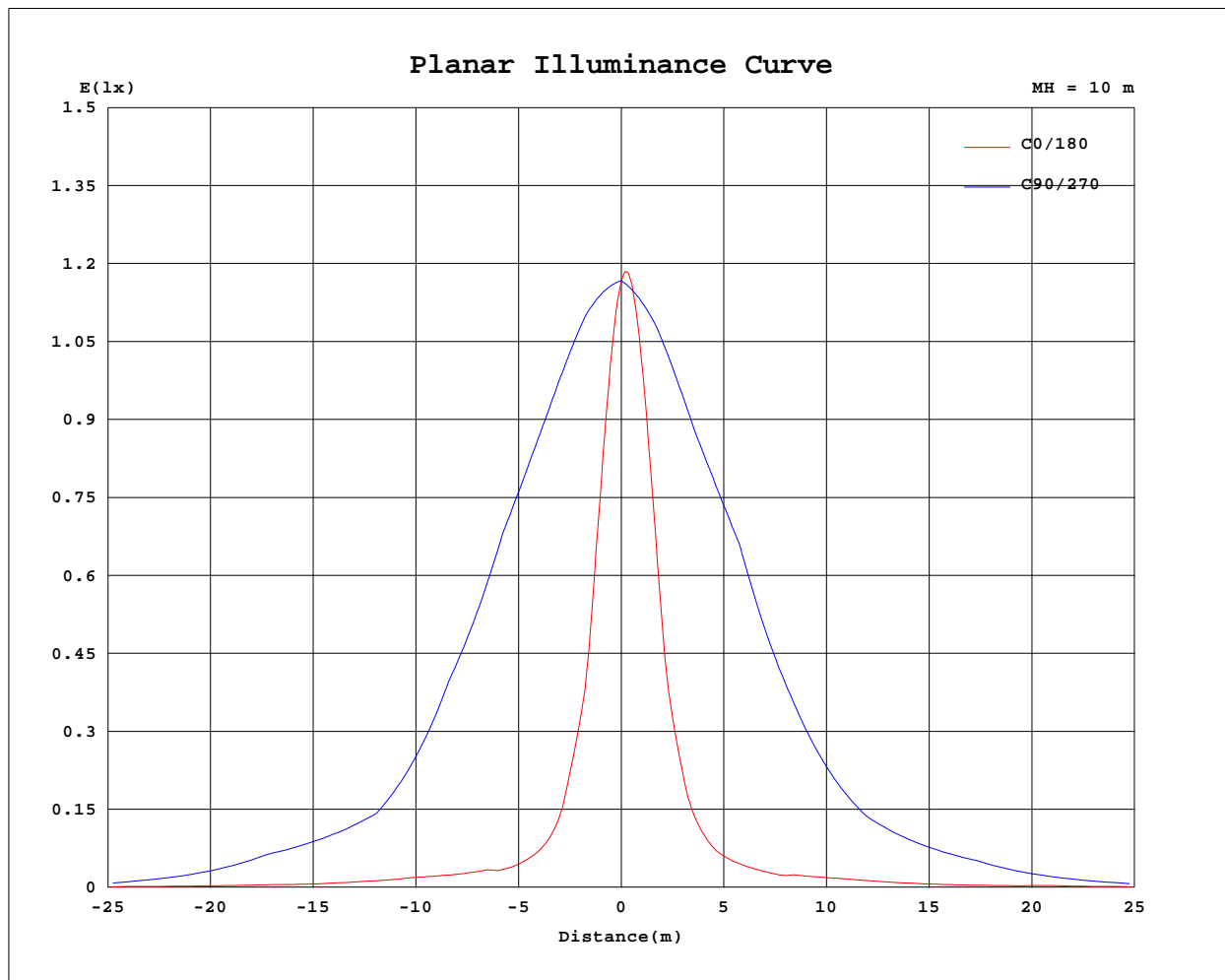
NAME: REL20-N (Single head)	TYPE:Emergency light	WEIGHT:
SPEC.:1W LED	DIM.:	SERIAL No.:
	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Harris Chen  
 Test Date:

g Range: 0 - 90DEG  
 g Interval: 0.5DEG  
 Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.0.287  
 Humidity:65.0%  
 Test Distance:13.450m [K=1.0000]  
 Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: Harris Chen  
Test Date:

g Range: 0 - 90DEG  
g Interval: 0.5DEG  
Test System: EVERFINE GO-2000H\_V1 SYSTEM V2.0.287  
Humidity: 65.0%  
Test Distance: 13.450m [K=1.0000]  
Remarks:

## LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: REL20-N (Single head)	TYPE:Emergency light	WEIGHT:
SPEC.:1W LED	DIM.:	SERIAL No.:
	SUR.:	PROTECTION ANGLE:

UNIT: cd

[illegible]

```

Range: 0 - 90DEG
Interval: 0.5DEG
Test System: EVERFINE GO-2000H_V1 SYSTEM V2.0.287
Humidity: 65.0%
Test Distance: 13.450m [K=1.0000]
Remarks:

```

## LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: REL20-N (Single head)	TYPE:Emergency light	WEIGHT:
SPEC.:1W LED	DIM.:	SERIAL No.:
	SUR.:	PROTECTION ANGLE:

UNIT: cd

[illegible]

```

Range: 0 - 90DEG
Interval: 0.5DEG
Test System: EVERFINE GO-2000H_V1 SYSTEM V2.0.287
Humidity: 65.0%
Test Distance: 13.450m [K=1.0000]
Remarks:

```

## LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: REL20-N (Single head)	TYPE:Emergency light	WEIGHT:
SPEC.:1W LED	DIM.:	SERIAL No.:
	SUR.:	PROTECTION ANGLE:

UNIT: cd

[illegible]

```

Range: 0 - 90DEG
Interval: 0.5DEG
Test System: EVERFINE GO-2000H_V1 SYSTEM V2.0.287
Humidity: 65.0%
Test Distance: 13.450m [K=1.0000]
Remarks:

```

## LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: REL20-N (Single head)	TYPE:Emergency light	WEIGHT:
SPEC.:1W LED	DIM.:	SERIAL No.:
	SUR.:	PROTECTION ANGLE:

UNIT: cd

[illegible]

```

Range: 0 - 90DEG
Interval: 0.5DEG
Test System: EVERFINE GO-2000H_V1 SYSTEM V2.0.287
Humidity: 65.0%
Test Distance: 13.450m [K=1.0000]
Remarks:

```