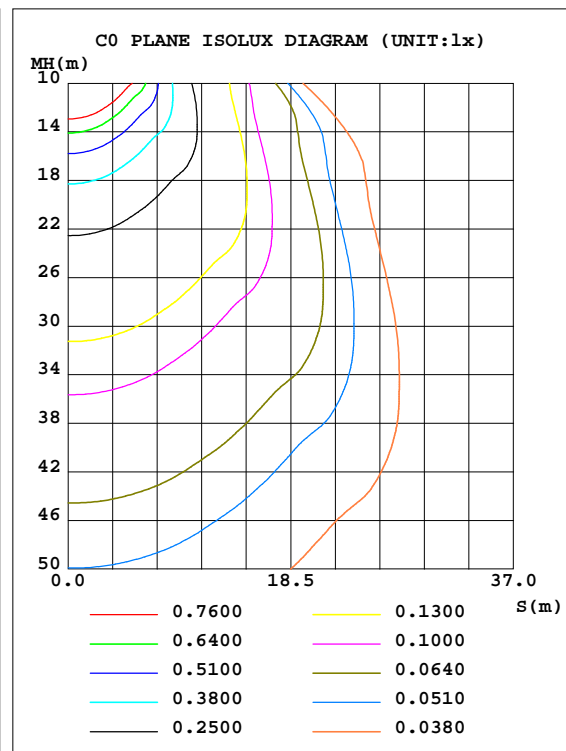
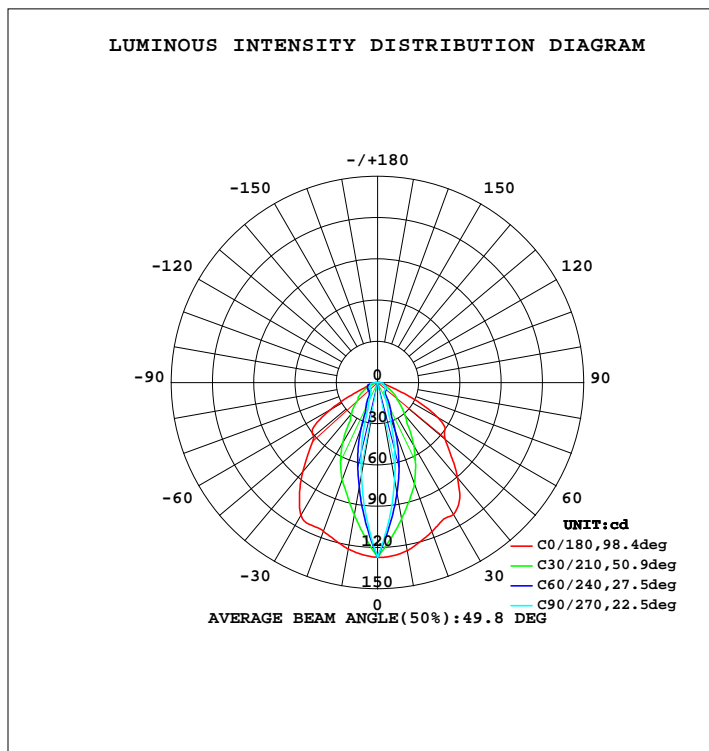




LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: REL21-N.REL22-N.REL23-N (Single head)	TYPE:Emergency	WEIGHT:
SPEC.:2W LED	DIM.:	SERIAL No.:
	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	REL21.22.23-N(Single head)	Imax(cd)	127.1	S/MH(C0/180)	1.27
NOMINAL POWER(W)	1.5	LOR(%)	100.0	S/MH(C90/270)	0.36
RATED VOLTAGE(V)	4	TOTAL FLUX(lm)	118.06	h UP, DN(C0-180)	0.0, 49.7
NOMINAL FLUX(lm)	118.06	CIE CLASS	DIRECT	h UP, DN(C180-360)	0.0, 50.3
LAMPS INSIDE	1	h up(%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)		h down(%)	100.0	CIBSE SHR MAX	0.50



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	126.5	108.2	99.28	105.9	125.6	106.2	97.29	105.2	0- 5	2.742	2.742	2.32,2.32
10	124.2	90.42	71.54	83.33	122.9	86.72	67.55	81.38	5- 10	6.992	9.734	8.24,8.24
15	119.8	74.02	47.14	60.76	118.8	69.63	44.16	58.27	10- 15	9.460	19.19	16.3,16.3
20	115.4	56.15	22.73	43.28	115.1	51.96	20.77	41.48	15- 20	10.38	29.57	25,25
25	110.9	37.58	15.81	27.29	114.4	33.55	15.27	25.63	20- 25	10.31	39.88	33.8,33.8
30	110.7	25.92	8.893	18.26	111.5	22.67	9.771	16.74	25- 30	10.27	50.15	42.5,42.5
35	104.2	19.11	8.298	14.17	99.09	18.15	8.646	13.18	30- 35	9.999	60.15	50.9,50.9
40	90.74	12.38	7.702	10.57	84.66	13.21	7.520	10.54	35- 40	9.469	69.62	59,59
45	75.96	11.46	7.606	9.892	70.58	11.75	7.374	10.78	40- 45	8.788	78.40	66.4,66.4
50	64.26	9.229	7.510	7.973	60.76	9.668	7.228	10.10	45- 50	8.191	86.60	73.3,73.3
55	59.83	7.913	7.530	7.222	57.30	8.945	7.167	8.692	50- 55	7.844	94.44	80,80
60	50.30	6.985	7.551	6.942	40.07	8.615	7.106	8.152	55- 60	7.278	101.7	86.2,86.2
65	31.61	7.147	6.021	6.575	19.10	8.475	6.284	8.003	60- 65	5.732	107.4	91,91
70	13.34	6.237	4.492	5.689	7.854	7.248	5.461	7.479	65- 70	3.860	111.3	94.3,94.3
75	6.016	5.011	4.532	4.644	3.570	5.679	5.370	6.287	70- 75	2.800	114.1	96.7,96.7
80	2.769	4.259	4.573	3.837	1.937	4.262	5.280	5.004	75- 80	2.269	116.4	98.6,98.6
85	1.525	1.612	0	1.434	1.200	1.448	0	1.781	80- 85	1.458	117.8	99.8,99.8
90	0.3432	0	0	0	0.1773	0	0	0	85- 90	0.2231	118.1	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		

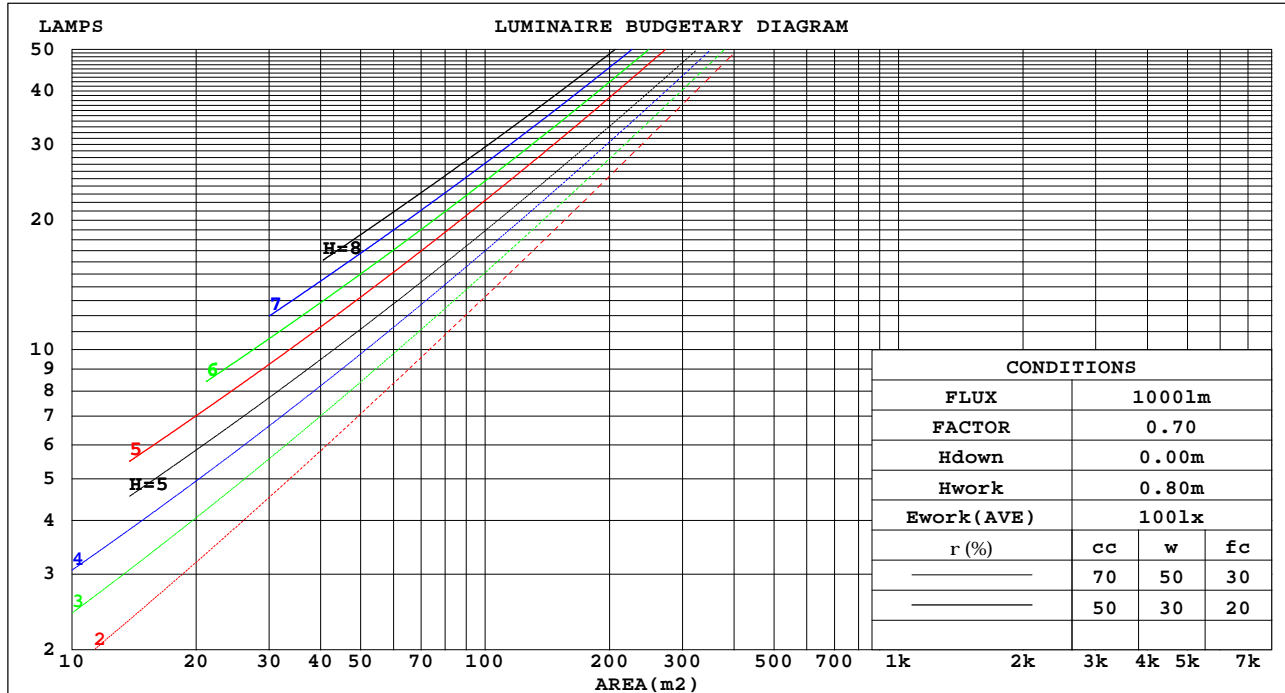
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Harris Chen
 Test Date:

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: REL21-N.REL22-N.REL23-N (Single head)	TYPE:Emergency	WEIGHT:
SPEC.:2W 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						Coefficients of Utilization(CU)									
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	.00
1.0	1.06	1.03	.99	1.04	1.01	.98	.90	.97	.95	.96	.94	.92	.92	.91	.89	.87
2.0	.95	.89	.84	.93	.88	.83	.90	.85	.81	.86	.83	.79	.83	.80	.78	.76
3.0	.85	.78	.73	.84	.77	.72	.81	.75	.71	.78	.74	.70	.76	.72	.68	.66
4.0	.77	.70	.64	.76	.69	.63	.74	.67	.62	.71	.66	.62	.69	.65	.61	.59
5.0	.70	.63	.57	.69	.62	.56	.67	.61	.56	.65	.60	.55	.64	.59	.55	.53
6.0	.65	.57	.51	.64	.56	.51	.62	.55	.50	.60	.55	.50	.59	.54	.50	.48
7.0	.60	.52	.46	.59	.51	.46	.57	.51	.46	.56	.50	.46	.55	.49	.45	.44
8.0	.55	.48	.43	.55	.47	.42	.53	.47	.42	.52	.46	.42	.51	.46	.42	.40
9.0	.52	.44	.39	.51	.44	.39	.50	.44	.39	.49	.43	.39	.48	.43	.39	.37
10.0	.48	.41	.36	.48	.41	.36	.47	.41	.36	.46	.40	.36	.45	.40	.36	.34



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: REL21-N.REL22-N.REL23-N (Single head)	TYPE:Emergency	WEIGHT:
SPEC.:2W 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
r fc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.264	.150	.048	.257	.147	.047	.244	.140	.045	.232	.134	.043	.221	.128	.041	
2.0	.249	.137	.042	.243	.134	.041	.232	.129	.040	.221	.124	.039	.212	.120	.038	
3.0	.232	.124	.037	.227	.121	.037	.217	.118	.036	.208	.114	.035	.199	.110	.034	
4.0	.216	.112	.033	.211	.110	.033	.202	.107	.032	.194	.104	.031	.187	.102	.031	
5.0	.201	.102	.030	.197	.101	.029	.189	.098	.029	.182	.096	.029	.175	.094	.028	
6.0	.187	.094	.027	.184	.093	.027	.177	.091	.026	.171	.089	.026	.165	.087	.026	
7.0	.175	.087	.025	.172	.086	.024	.166	.084	.024	.161	.082	.024	.155	.081	.024	
8.0	.165	.081	.023	.162	.080	.023	.156	.078	.022	.151	.077	.022	.147	.075	.022	
9.0	.155	.075	.021	.153	.074	.021	.148	.073	.021	.143	.072	.021	.139	.071	.020	
10.0	.147	.070	.020	.144	.070	.019	.140	.069	.019	.136	.067	.019	.132	.066	.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
r fc	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	.152	.134	.119	.104	.092	.082	.060	.053	.048	.019	.017	.015	
2.0	.167	.132	.103	.143	.114	.089	.098	.079	.062	.056	.046	.036	.018	.015	.012	
3.0	.157	.114	.080	.135	.098	.069	.093	.068	.048	.053	.040	.029	.017	.013	.009	
4.0	.149	.100	.063	.128	.087	.055	.088	.060	.039	.051	.035	.023	.016	.012	.008	
5.0	.141	.089	.052	.121	.077	.045	.083	.054	.032	.048	.032	.019	.016	.010	.006	
6.0	.133	.081	.043	.115	.070	.037	.079	.049	.026	.046	.029	.016	.015	.009	.005	
7.0	.127	.074	.036	.109	.064	.032	.075	.045	.022	.044	.026	.013	.014	.009	.004	
8.0	.120	.068	.031	.104	.059	.027	.072	.041	.019	.042	.024	.012	.013	.008	.004	
9.0	.115	.063	.027	.099	.054	.024	.068	.038	.017	.040	.023	.010	.013	.007	.003	
10.0	.109	.058	.024	.094	.051	.021	.065	.036	.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: REL21-N.REL22-N.REL23-N (Single head)					TYPE:Emergency					WEIGHT:					
SPEC.:2W 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	37.6	39.0	37.9	39.1	39.3	26.4	27.7	26.7	27.9	28.1					
3H	38.4	39.6	38.7	39.8	40.1	28.3	29.5	28.6	29.8	30.0					
4H	38.5	39.6	38.8	39.9	40.1	29.5	30.6	29.8	30.9	31.1					
6H	38.5	39.5	38.8	39.8	40.1	31.0	32.1	31.3	32.4	32.6					
8H	38.4	39.5	38.8	39.8	40.0	31.5	32.5	31.8	32.8	33.1					
12H	38.4	39.4	38.8	39.7	40.0	31.5	32.5	31.8	32.8	33.1					
4H 2H	37.4	38.6	37.7	38.8	39.0	27.7	28.9	28.0	29.1	29.4					
3H	38.2	39.2	38.5	39.5	39.8	29.9	30.9	30.2	31.1	31.4					
4H	38.3	39.2	38.7	39.5	39.9	31.1	32.0	31.5	32.3	32.7					
6H	38.3	39.2	38.7	39.5	39.9	32.7	33.5	33.1	33.9	34.2					
8H	38.3	39.1	38.7	39.5	39.8	33.2	33.9	33.6	34.3	34.7					
12H	38.4	39.1	38.8	39.4	39.8	33.2	33.9	33.6	34.3	34.7					
8H 4H	38.2	39.0	38.6	39.4	39.7	31.7	32.4	32.1	32.8	33.2					
6H	38.3	39.0	38.8	39.4	39.8	33.6	34.3	34.1	34.7	35.1					
8H	38.4	38.9	38.8	39.4	39.8	34.2	34.7	34.6	35.2	35.6					
12H	38.4	38.9	38.9	39.4	39.8	34.2	34.7	34.7	35.2	35.6					
12H 4H	38.2	38.9	38.6	39.3	39.7	31.7	32.4	32.1	32.8	33.2					
6H	38.3	38.9	38.8	39.3	39.8	33.8	34.4	34.3	34.8	35.2					
8H	38.4	38.9	38.9	39.3	39.8	34.4	34.9	34.9	35.4	35.8					
Variations with the observer position at spacings:															
S = 1.0H	+ 0.8 / - 0.9					+ 0.1 / - 0.2									
1.5H	+ 1.9 / - 3.2					+ 0.1 / - 0.2									
2.0H	+ 3.1 / - 5.4					+ 0.2 / - 0.3									

CIE Pub.117 Corrected 118.1 lm Total Lamp Luminous Flux.(8log(F/F0) = -7.4)

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: REL21-N.REL22-N.REL23-N (Single head)	TYPE:Emergency	WEIGHT:
SPEC.:2W 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) $k(RI) \times RCR = 5$									
k = 0.60	66	56	50	65	56	50	64	55	50	44
0.80	76	66	59	75	65	59	73	64	59	53
1.00	83	74	67	82	73	67	80	74	67	60
1.25	89	80	74	88	80	74	85	78	73	67
1.50	94	85	79	92	84	79	89	83	78	71
2.00	99	92	87	98	91	86	94	89	84	77
2.50	102	96	91	101	95	90	97	92	88	81
3.00	105	99	95	103	98	94	99	95	92	84
4.00	109	104	100	106	102	98	102	99	96	87
5.00	111	107	103	108	105	102	104	101	98	90
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 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: REL21-N.REL22-N.REL23-N (Single head)	TYPE:Emergency	WEIGHT:
SPEC.:2W LED	DIM.:	SERIAL No.:
	SUR.:	PROTECTION ANGLE:

Conical surface Flux(90deg):

78.405 lm

%lum = 66.4%

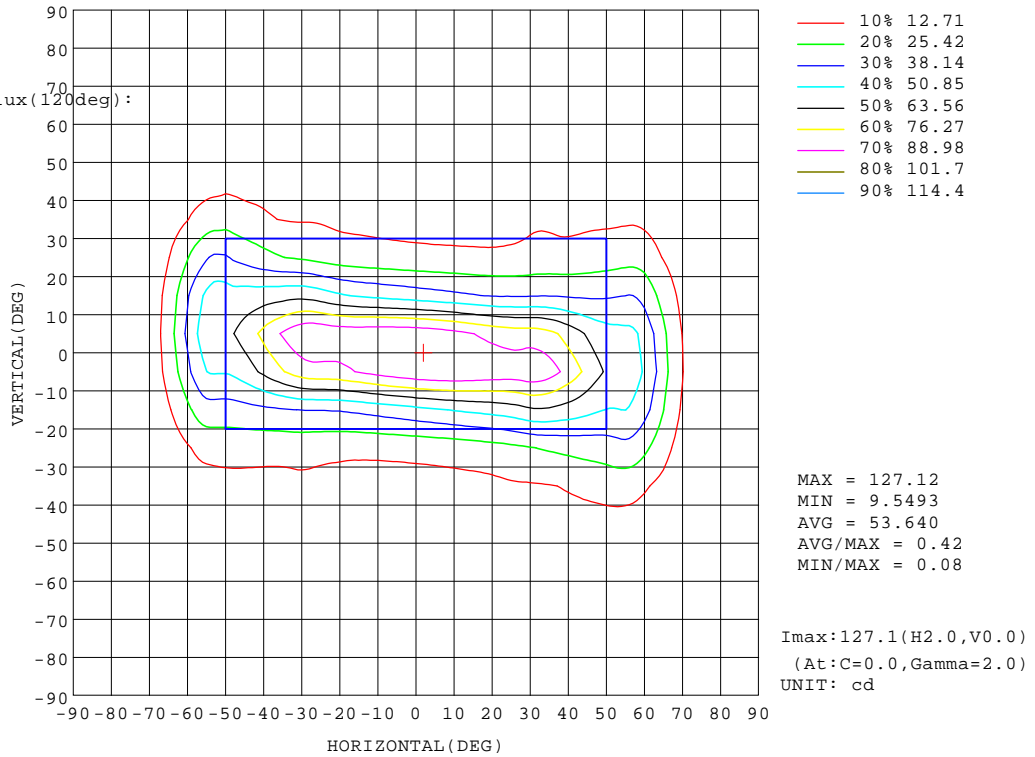
%lamp = 66.4%

Conical surface Flux(120deg):

101.72 lm

%lum = 86.2%

%lamp = 86.2%

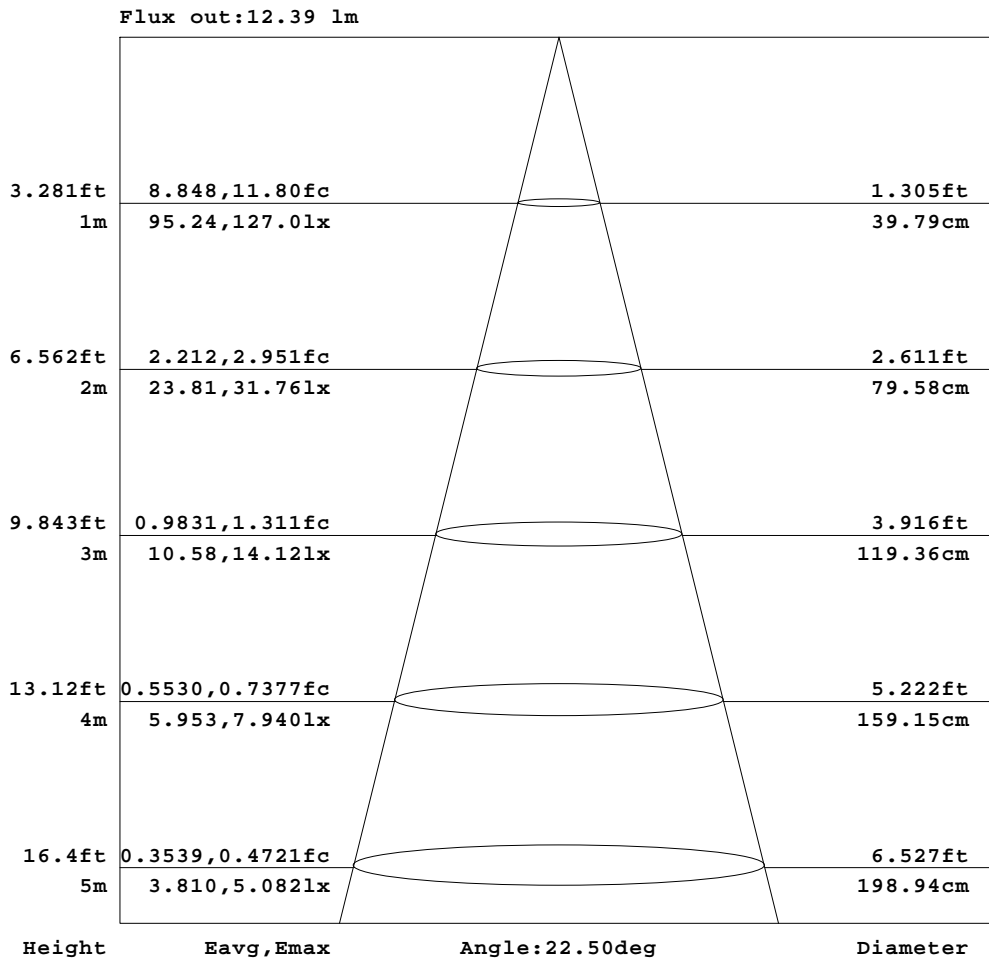


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Harris Chen
Test Date:

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:

AAI Figure

NAME: REL21-N.REL22-N.REL23-N (Single head)	TYPE:Emergency	WEIGHT:
SPEC.:2W LED	DIM.:	SERIAL No.:
	SUR.:	PROTECTION ANGLE:



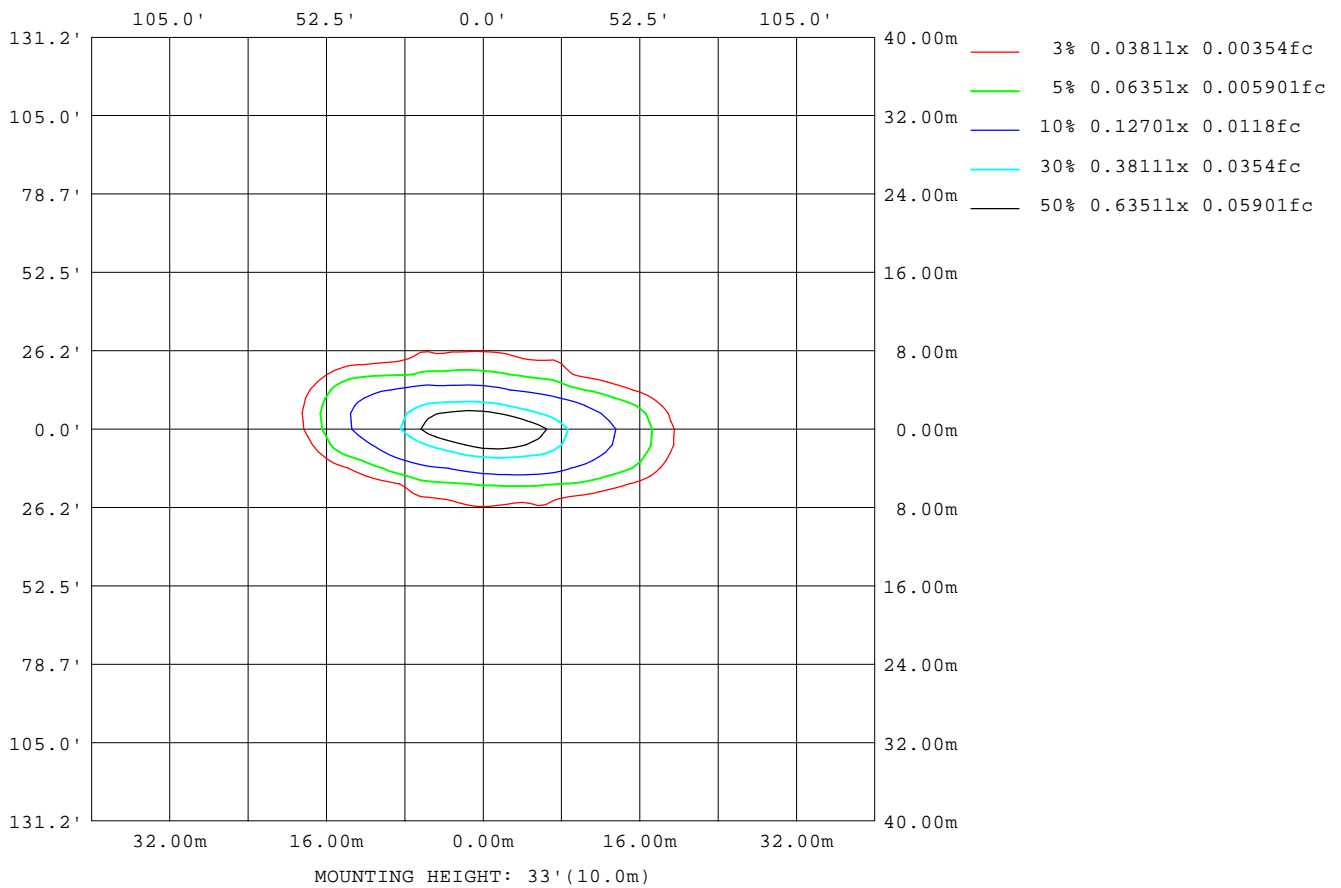
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

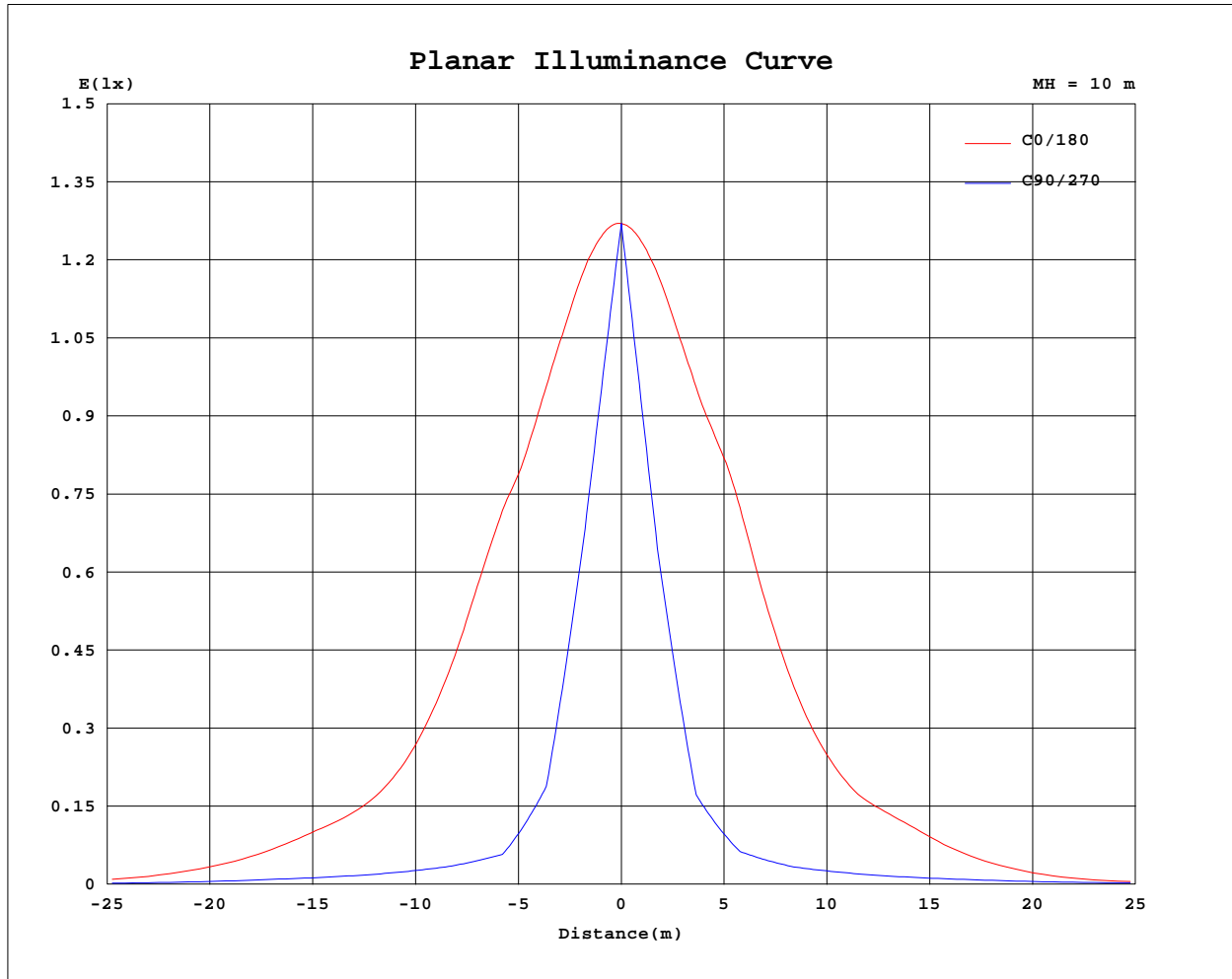
NAME: REL21-N.REL22-N.REL23-N (Single head)	TYPE:Emergency	WEIGHT:
SPEC.:2W LED	DIM.:	SERIAL No.:
	SUR.:	PROTECTION ANGLE:



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: REL21-N.REL22-N.REL23-N (Single head)	TYPE:Emergency	WEIGHT:
SPEC.:2W LED	DIM.:	SERIAL No.:
	SUR.:	PROTECTION ANGLE:

Table--1

UNIT: cd

C(DEG) g (DEG)	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
0	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127
5	126	124	122	120	118	116	114	112	110	108	107	105	104	103	102	101	100	99.6	99.3
10	124	120	116	112	108	104	101	97.2	93.7	90.4	87.3	84.4	81.7	79.2	77.0	75.2	73.7	72.5	71.5
15	120	114	109	104	99.0	94.0	89.1	84.1	79.3	74.0	69.0	64.5	60.5	56.9	53.9	51.3	49.4	48.0	47.1
20	115	109	103	97.0	90.9	84.9	78.4	70.5	63.1	56.1	49.7	43.8	38.5	34.0	30.2	27.2	24.8	23.4	22.7
25	111	104	98.1	91.7	85.1	76.0	65.6	55.6	46.2	37.6	29.6	25.6	23.0	21.0	19.2	17.9	16.8	16.1	15.8
30	111	104	97.2	90.0	79.5	65.6	52.7	40.4	30.2	25.9	22.1	18.7	16.0	13.7	11.9	10.5	9.64	9.08	8.89
35	104	97.9	92.1	85.6	70.1	54.7	39.5	30.6	24.4	19.1	14.8	11.2	10.0	9.35	8.89	8.60	8.43	8.34	8.30
40	90.7	86.1	81.9	71.3	56.0	40.3	31.3	23.9	17.0	12.4	11.4	10.2	8.95	8.22	7.87	7.69	7.67	7.70	7.70
45	76.0	73.2	71.2	57.9	42.9	32.6	24.3	16.0	13.1	11.5	10.9	9.92	8.27	7.50	7.35	7.32	7.40	7.54	7.61
50	64.3	62.3	58.2	47.1	35.8	26.5	18.5	13.9	10.7	9.23	9.14	9.06	8.37	7.52	7.22	7.12	7.18	7.39	7.51
55	59.8	58.0	52.2	42.4	30.3	20.6	15.0	10.2	8.35	7.91	7.59	7.28	7.70	7.32	7.06	7.00	7.17	7.42	7.53
60	50.3	49.5	43.8	35.1	23.4	16.2	10.6	8.27	6.67	6.98	6.97	6.88	6.97	7.11	6.69	6.84	7.16	7.45	7.55
65	31.6	31.6	27.1	19.7	14.1	9.74	7.25	5.64	5.43	7.15	7.02	6.82	6.34	6.45	5.85	5.80	5.91	6.00	6.02
70	13.3	13.2	11.6	9.31	6.76	5.51	4.57	3.99	4.04	6.24	6.41	6.38	5.63	5.37	4.89	4.63	4.58	4.54	4.49
75	6.02	5.89	5.42	4.71	4.02	4.33	3.75	2.94	2.84	5.01	5.27	5.69	5.05	4.77	4.63	4.41	4.41	4.50	4.53
80	2.77	2.69	2.55	2.49	2.63	2.89	2.45	2.20	2.22	4.26	4.60	4.80	4.31	4.36	4.54	4.33	4.32	4.48	4.57
85	1.53	1.50	1.44	1.47	1.81	2.39	1.81	1.28	1.05	1.61	1.30	0.99	0.63	0.44	0.29	0.15	0.07	0.02	0.00
90	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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:

