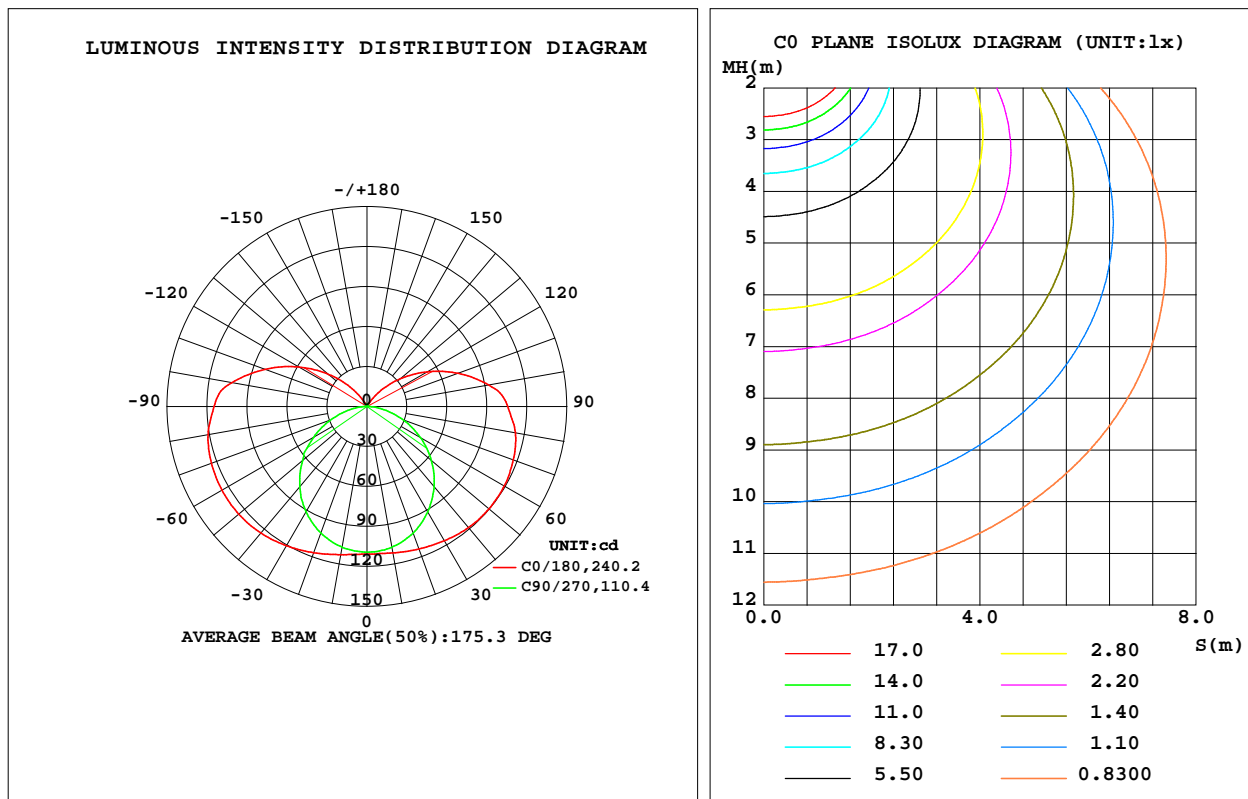


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:24.00V I:0.6537A P:15.69W PF:1.000 Freq:0Hz Lamp Flux:727.818x1 lm		
NAME: NNR18	TYPE:	WEIGHT:
SPEC.:NNR18-9LWNW24CSN050CC0100	DIM.: 1000*18mm	SERIAL No.:01
MFR.: COLORS	SUR.:1000*18	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 46.39 lm/W			
MODEL	NNR18	I _{max} (cd)	125.8	S/MH(C0/180)	1.63
NOMINAL POWER(W)	14.4	LOR(%)	100.0	S/MH(C90/270)	1.24
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	727.82	h UP,DN(C0-180)	11.8,37.5
NOMINAL FLUX(lm)	727.818	CIE CLASS	SEMI-D.	h UP,DN(C180-360)	12.6,38.1
LAMPS INSIDE	1	h up(%)	24.4	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)	24	h down(%)	75.6	CIBSE SHR MAX	1.55



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2021-07-10

g Range: 0 - 180DEG
Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.950m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

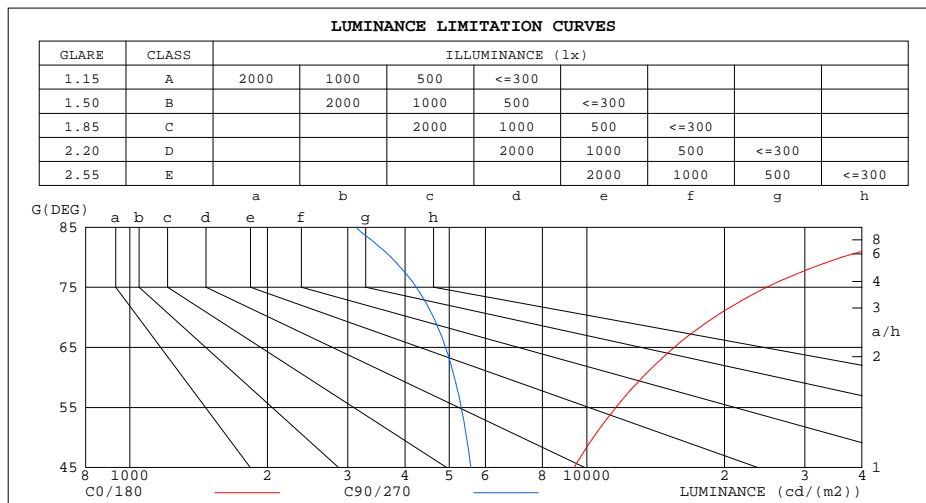
g	C0	C45	C90	C135	C180	C225	C270	C315	g	F zone	F total	%lum,lamp
10	111.6	109.6	107.2	109.2	112.9	110.4	107.2	108.6	0- 10	10.48	10.48	1.44,1.44
20	113.8	108.1	101.1	108.7	116.8	109.7	101.1	107.0	10- 20	30.90	41.37	5.68,5.68
30	116.2	104.8	91.26	107.1	120.7	107.7	91.40	103.8	20- 30	49.47	90.84	12.5,12.5
40	118.6	100.1	78.45	104.1	123.9	104.5	78.45	98.93	30- 40	64.82	155.7	21.4,21.4
50	119.5	94.45	63.13	99.91	125.6	99.91	63.20	92.97	40- 50	75.81	231.5	31.8,31.8
60	119.1	88.29	46.20	94.54	125.7	94.34	46.25	86.77	50- 60	81.91	313.4	43.1,43.1
70	116.9	82.29	28.43	88.57	124.3	88.37	28.45	80.80	60- 70	83.07	396.4	54.5,54.5
80	113.1	76.46	11.66	82.18	121.1	81.92	11.74	75.02	70- 80	80.08	476.5	65.5,65.5
90	105.6	68.69	0.9706	74.58	114.8	74.06	0.9255	68.44	80- 90	73.52	550.0	75.6,75.6
100	92.92	57.15	0.5276	60.14	103.3	59.74	0.4345	51.51	90-100	64.94	615.0	84.5,84.5
110	73.04	41.80	0.6414	40.83	81.71	41.02	0.6682	40.31	100-110	49.67	664.7	91.3,91.3
120	52.21	24.40	0.8743	21.51	59.52	22.95	0.8419	27.94	110-120	32.79	697.4	95.8,95.8
130	32.16	14.07	1.095	7.210	37.63	8.233	1.056	17.22	120-130	18.47	715.9	98.4,98.4
140	14.62	4.914	1.282	1.782	17.74	1.752	1.216	7.108	130-140	7.910	723.8	99.5,99.5
150	2.667	1.708	1.464	1.723	2.291	1.723	1.396	3.568	140-150	2.475	726.3	99.8,99.8
160	1.964	1.576	1.576	1.790	1.723	1.723	1.550	2.044	150-160	0.8540	727.2	99.9,99.9
170	1.730	1.723	1.797	1.884	1.576	1.783	1.777	1.663	160-170	0.4922	727.6	100,100
180	1.610	1.930	1.950	1.964	1.583	1.924	1.997	1.957	170-180	0.1697	727.8	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:JYH
 Test Date:2021-07-10

g Range: 0 - 180DEG
 g Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:10.950m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:24.00V I:0.6537A P:15.69W PF:1.000 Freq:0Hz Lamp Flux:727.818x1 lm		
NAME: NNR18	TYPE:	WEIGHT:
SPEC.:NNR18-9LWNW24CSN050CC0100	DIM.: 1000*18mm	SERIAL No.:01
MFR.: COLORS	SUR.:1000*18	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	69709	3123
80	36188	3731
75	24759	4237
70	18995	4618
65	15531	4907
60	13230	5133
55	11575	5310
50	10331	5457
45	9372	5582

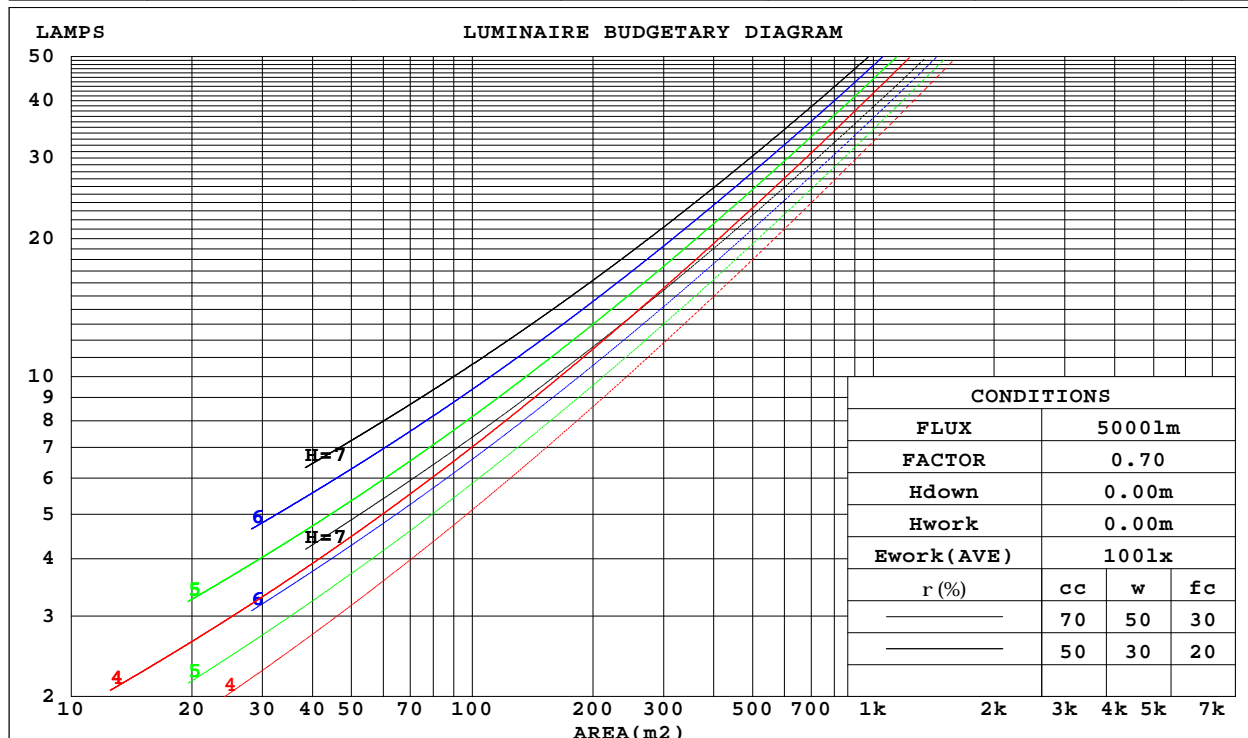
C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:JYH
 Test Date:2021-07-10

g Range: 0 - 180DEG
 g Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:10.950m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:24.00V I:0.6537A P:15.69W PF:1.000 Freq:0Hz Lamp Flux:727.818x1 lm		
NAME: NNR18	TYPE:	WEIGHT:
SPEC.:NNR18-9LWNW24CSN050CC0100	DIM.: 1000*18mm	SERIAL No.:01
MFR.: COLORS	SUR.:1000*18	Shielding 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															



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2021-07-10

g Range: 0 - 180DEG
Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.950m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:24.00V I:0.6537A P:15.69W PF:1.000 Freq:0Hz Lamp Flux:727.818x1 lm		
NAME: NNR18	TYPE:	WEIGHT:
SPEC.:NNR18-9LWNW24CSN050CC0100	DIM.: 1000*18mm	SERIAL No.:01
MFR.: COLORS	SUR.:1000*18	Shielding 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	.424	.241	.076	.409	.233	.074	.381	.219	.070	.356	.205	.066	.332	.193	.062	
2.0	.356	.195	.060	.343	.189	.058	.317	.177	.055	.294	.165	.052	.273	.154	.049	
3.0	.311	.166	.050	.299	.160	.048	.276	.150	.045	.255	.140	.043	.236	.130	.040	
4.0	.277	.144	.042	.266	.139	.041	.245	.130	.039	.226	.121	.037	.208	.113	.034	
5.0	.250	.127	.037	.240	.123	.036	.221	.115	.034	.203	.107	.032	.187	.100	.030	
6.0	.228	.114	.033	.219	.110	.032	.201	.103	.030	.185	.096	.028	.170	.090	.027	
7.0	.209	.103	.029	.201	.100	.029	.185	.093	.027	.170	.087	.025	.156	.081	.024	
8.0	.193	.094	.027	.186	.091	.026	.171	.085	.024	.157	.080	.023	.144	.074	.022	
9.0	.180	.087	.024	.173	.084	.024	.159	.079	.022	.146	.073	.021	.134	.068	.020	
10.0	.168	.080	.022	.161	.078	.022	.149	.073	.021	.137	.068	.019	.126	.063	.018	

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	.377	.377	.377	.322	.322	.322	.220	.220	.220	.126	.126	.126	.040	.040	.040	
1.0	.376	.343	.313	.322	.294	.269	.220	.202	.186	.127	.117	.108	.041	.038	.035	
2.0	.370	.320	.279	.317	.276	.241	.217	.191	.168	.125	.111	.099	.040	.036	.032	
3.0	.362	.304	.258	.311	.263	.224	.213	.182	.157	.123	.107	.093	.040	.035	.030	
4.0	.354	.292	.245	.304	.253	.213	.209	.176	.150	.121	.103	.089	.039	.034	.029	
5.0	.347	.283	.236	.298	.245	.205	.205	.171	.145	.119	.100	.086	.038	.033	.028	
6.0	.339	.275	.229	.291	.238	.199	.201	.167	.141	.117	.098	.084	.038	.032	.028	
7.0	.332	.269	.224	.285	.233	.195	.197	.163	.138	.115	.096	.082	.037	.031	.027	
8.0	.325	.263	.221	.280	.228	.192	.194	.160	.136	.113	.095	.081	.036	.031	.027	
9.0	.319	.258	.218	.274	.224	.190	.190	.158	.135	.111	.093	.080	.036	.031	.027	
10.0	.313	.254	.215	.269	.221	.188	.187	.155	.134	.109	.092	.080	.035	.030	.026	

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2021-07-10

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.950m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:24.00V I:0.6537A P:15.69W PF:1.000 Freq:0Hz Lamp Flux:727.818x1 lm											
NAME: NNR18					TYPE:			WEIGHT:			
SPEC.:NNR18-9LWNW24CSN050CC0100					DIM.: 1000*18mm			SERIAL No.:01			
MFR.: COLORS					SUR.:1000*18			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	21.4	22.7	22.0	23.3	24.0	18.1	19.5	18.7	20.1	20.8	
	3H	24.6	25.9	25.3	26.5	27.3	19.8	21.0	20.4	21.7	22.4
	4H	26.5	27.7	27.1	28.3	29.1	20.5	21.7	21.1	22.3	23.1
	6H	28.5	29.7	29.2	30.3	31.1	21.0	22.1	21.6	22.8	23.6
	8H	29.7	30.8	30.3	31.4	32.2	21.2	22.2	21.8	22.9	23.7
	12H	31.0	32.0	31.6	32.7	33.5	21.3	22.3	21.9	23.0	23.8
4H	2H	22.0	23.1	22.6	23.8	24.6	19.8	20.9	20.4	21.6	22.4
	3H	25.4	26.5	26.1	27.2	28.0	21.8	22.8	22.5	23.5	24.3
	4H	27.4	28.4	28.1	29.1	29.9	22.7	23.7	23.4	24.4	25.2
	6H	29.7	30.6	30.4	31.3	32.2	23.5	24.4	24.3	25.1	26.0
	8H	31.0	31.8	31.7	32.5	33.4	23.8	24.7	24.6	25.4	26.3
	12H	32.4	33.2	33.1	33.9	34.8	24.1	24.8	24.8	25.6	26.5
8H	4H	27.8	28.6	28.5	29.4	30.2	24.3	25.1	25.1	25.9	26.8
	6H	30.4	31.0	31.1	31.8	32.7	25.7	26.3	26.4	27.1	28.0
	8H	31.8	32.4	32.6	33.2	34.2	26.2	26.9	27.0	27.7	28.6
	12H	33.5	34.1	34.3	34.9	35.8	26.7	27.3	27.5	28.1	29.1
12H	4H	27.8	28.6	28.6	29.4	30.3	24.9	25.6	25.6	26.4	27.3
	6H	30.5	31.1	31.3	31.9	32.8	26.5	27.1	27.3	27.9	28.8
	8H	32.1	32.6	32.9	33.4	34.4	27.3	27.9	28.1	28.7	29.6
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.1					
1.5H	+ 0.2 / - 0.2					+ 0.2 / - 0.3					
2.0H	+ 0.2 / - 0.3					+ 0.3 / - 0.4					

CIE Pub.117, 727.8 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -1.1)

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2021-07-10

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.950m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:24.00V I:0.6537A P:15.69W PF:1.000 Freq:0Hz Lamp Flux:727.818x1 lm		
NAME: NNR18	TYPE:	WEIGHT:
SPEC.:NNR18-9LWNW24CSN050CC0100	DIM.: 1000*18mm	SERIAL No.:01
MFR.: COLORS	SUR.:1000*18	Shielding Angle:

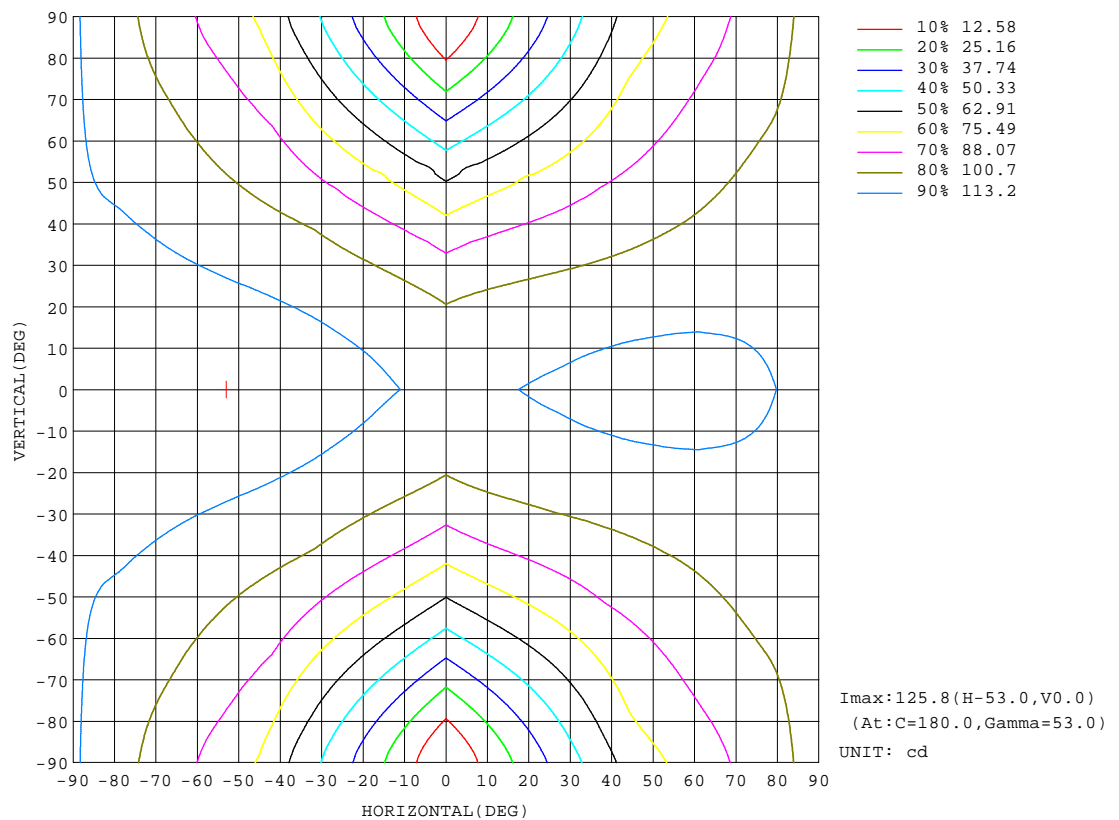
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	43	30	23	42	30	23	40	29	22	15
0.80	52	38	30	50	37	29	47	36	28	20
1.00	59	46	37	57	44	36	53	45	35	25
1.25	66	53	43	64	51	42	59	48	41	30
1.50	71	58	49	69	56	47	63	53	45	34
2.00	79	67	57	76	64	56	69	60	53	40
2.50	84	72	63	80	70	61	73	64	58	44
3.00	88	77	69	84	74	66	76	68	62	47
4.00	93	84	76	88	80	73	80	74	68	52
5.00	96	88	81	92	84	78	83	77	72	55
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:JYH
 Test Date:2021-07-10

g Range: 0 - 180DEG
 g Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:10.950m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:24.00V I:0.6537A P:15.69W PF:1.000 Freq:0Hz Lamp Flux:727.818x1 lm		
NAME: NNR18	TYPE:	WEIGHT:
SPEC.:NNR18-9LWNW24CSN050CC0100	DIM.: 1000*18mm	SERIAL No.:01
MFR.: COLORS	SUR.:1000*18	Shielding Angle:



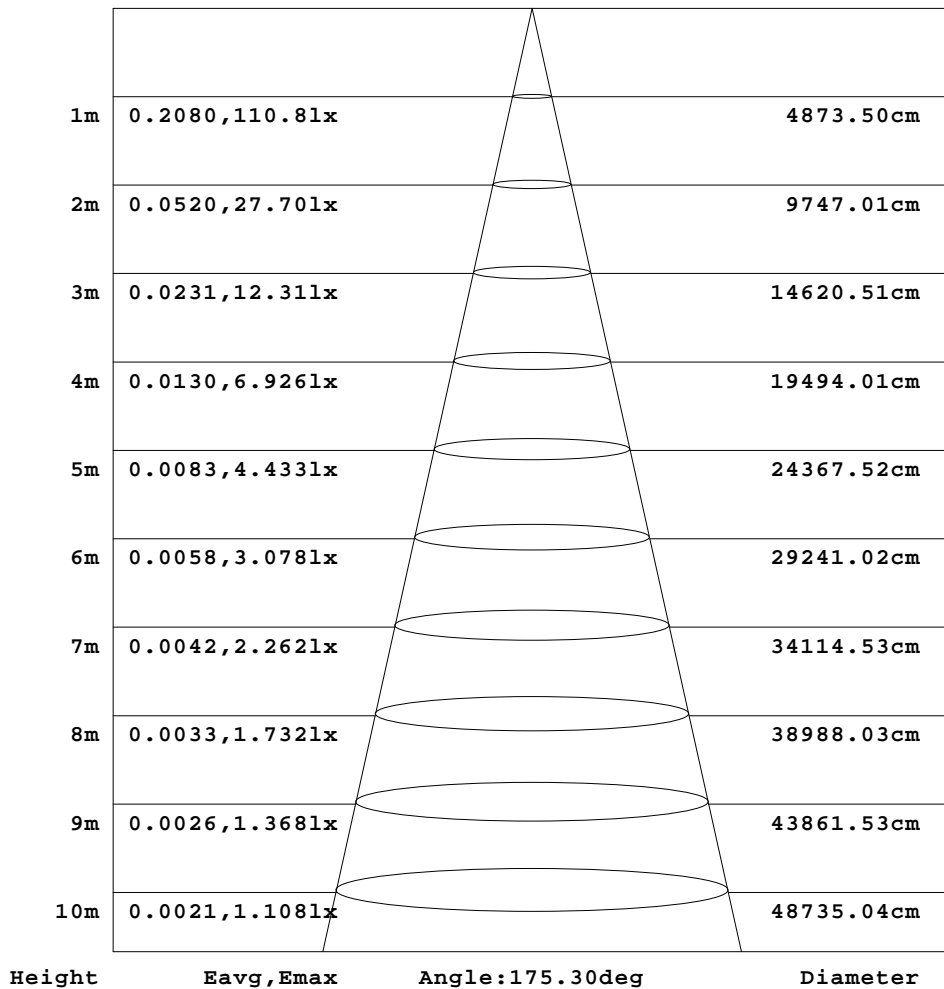
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2021-07-10

Range: 0 - 180DEG
Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.950m [K=1.0000]
Remarks:

AAI Figure

Test:U:24.00V I:0.6537A P:15.69W PF:1.000 Freq:0Hz Lamp Flux:727.818x1 lm		
NAME: NNR18	TYPE:	WEIGHT:
SPEC.:NNR18-9LWNW24CSN050CC0100	DIM.: 1000*18mm	SERIAL No.:01
MFR.: COLORS	SUR.:1000*18	Shielding Angle:

Flux out:536.0 lm



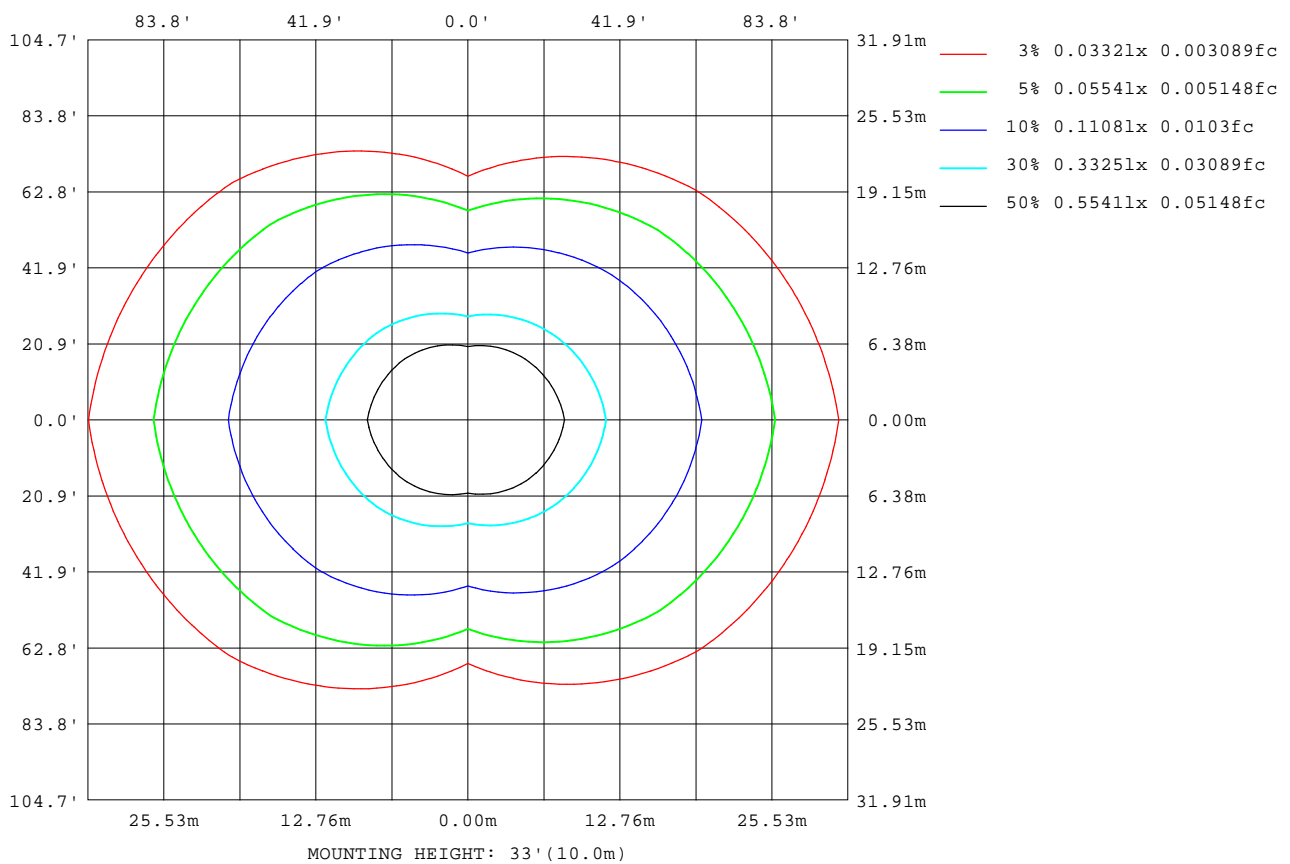
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2021-07-10

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.950m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:24.00V I:0.6537A P:15.69W PF:1.000 Freq:0Hz Lamp Flux:727.818x1 lm		
NAME: NNR18	TYPE:	WEIGHT:
SPEC.:NNR18-9LWNW24CSN050CC0100	DIM.: 1000*18mm	SERIAL No.:01
MFR.: COLORS	SUR.:1000*18	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2021-07-10

Range: 0 - 180DEG
Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.950m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:24.00V I:0.6537A P:15.69W PF:1.000 Freq:0Hz Lamp Flux:727.818x1 lm		
NAME: NNR18	TYPE:	WEIGHT:
SPEC.:NNR18-9LWNW24CSN050CC0100	DIM.: 1000*18mm	SERIAL No.:01
MFR.: COLORS	SUR.:1000*18	Shielding Angle:

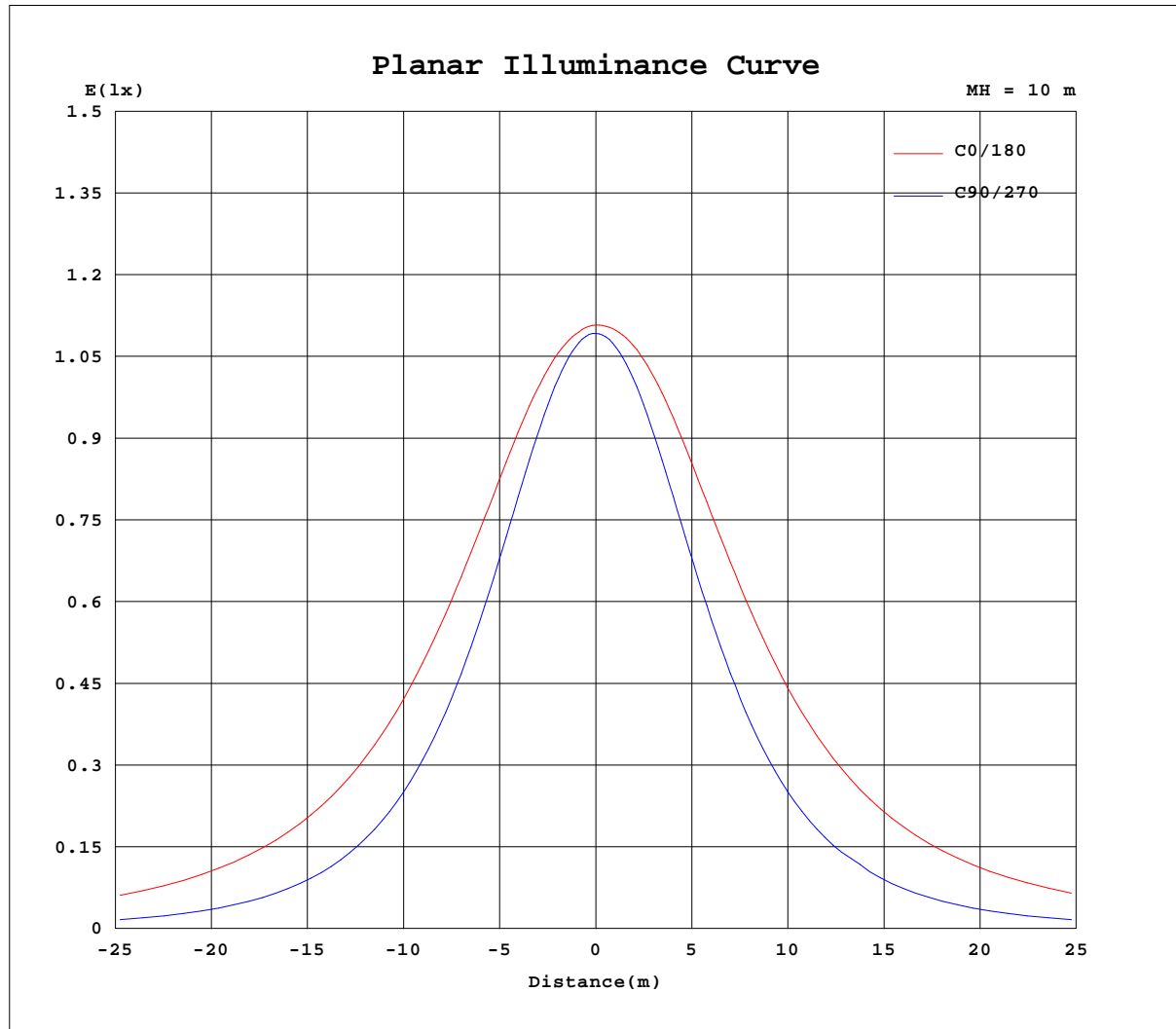
AvgL	cd/m2
L_0~180(65)av	15993
L_0~180(75)av	25581
L_0~180(85)av	72446
L_90~270(65)av	4908
L_90~270(75)av	4242
L_90~270(85)av	3173
L_45(65)av	11567
L_45(75)av	17606
L_45(85)av	48013

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2021-07-10

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.950m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: JYH
Test Date: 2021-07-10

deg Range: 0 - 180DEG
deg Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity: 65.0%
Test Distance: 10.950m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:24.00V I:0.6537A P:15.69W PF:1.000 Freq:0Hz Lamp Flux:727.818x1 lm		
NAME: NNR18	TYPE:	WEIGHT:
SPEC.:NNR18-9LWNW24CSN050CC0100	DIM.: 1000*18mm	SERIAL No.:01
MFR.: COLORS	SUR.:1000*18	Shielding Angle:

Table--1

UNIT: cd

C(DEG) g (DEG)	0	45	90	135	180	225	270	315										
0	111	110	109	109	111	110	109	109										
5	111	110	109	109	111	110	109	109										
10	112	110	107	109	113	110	107	109										
15	113	109	105	109	115	110	105	108										
20	114	108	101	109	117	110	101	107										
25	115	107	96.6	108	119	109	96.6	106										
30	116	105	91.3	107	121	108	91.4	104										
35	118	103	85.2	106	122	106	85.4	102										
40	119	100	78.4	104	124	104	78.4	98.9										
45	119	97.3	71.0	102	125	102	71.1	96.0										
50	120	94.4	63.1	99.9	126	99.9	63.2	93.0										
55	120	91.4	54.8	97.3	126	97.2	55.2	89.9										
60	119	88.3	46.2	94.5	126	94.3	46.3	86.8										
65	118	85.3	37.3	91.6	125	91.4	37.3	83.7										
70	117	82.3	28.4	88.6	124	88.4	28.4	80.8										
75	115	79.4	19.7	85.5	123	85.3	19.8	77.9										
80	113	76.5	11.7	82.2	121	81.9	11.7	75.0										
85	109	73.1	4.90	78.4	118	78.0	5.06	71.8										
90	106	68.7	0.97	74.6	115	74.1	0.93	68.4										
95	101	64.4	0.62	70.1	111	69.5	0.47	64.9										
100	92.9	57.1	0.53	60.1	103	59.7	0.43	51.5										
105	83.2	50.0	0.52	50.3	92.6	50.2	0.58	49.1										
110	73.0	41.8	0.64	40.8	81.7	41.0	0.67	40.3										
115	62.6	32.8	0.74	29.9	70.7	30.9	0.77	34.0										
120	52.2	24.4	0.87	21.5	59.5	23.0	0.84	27.9										
125	42.0	19.1	1.28	13.9	48.4	15.3	0.98	22.4										
130	32.2	14.1	1.10	7.21	37.6	8.23	1.06	17.2										
135	22.7	8.84	1.14	2.99	27.6	3.16	1.14	10.6										
140	14.6	4.91	1.28	1.78	17.7	1.75	1.22	7.11										
145	6.56	2.62	1.56	1.71	8.68	1.72	1.31	4.95										
150	2.67	1.71	1.46	1.72	2.29	1.72	1.40	3.57										
155	2.05	1.58	1.50	1.75	1.82	1.72	1.43	2.76										
160	1.96	1.58	1.58	1.79	1.72	1.72	1.55	2.04										
165	1.88	1.62	1.72	1.84	1.72	1.72	1.66	1.68										
170	1.73	1.72	1.80	1.88	1.58	1.78	1.78	1.66										
175	1.62	1.83	1.92	1.94	1.54	1.81	1.91	1.79										
180	1.61	1.93	1.95	1.96	1.58	1.92	2.00	1.96										

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2021-07-10

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.950m [K=1.0000]
Remarks: