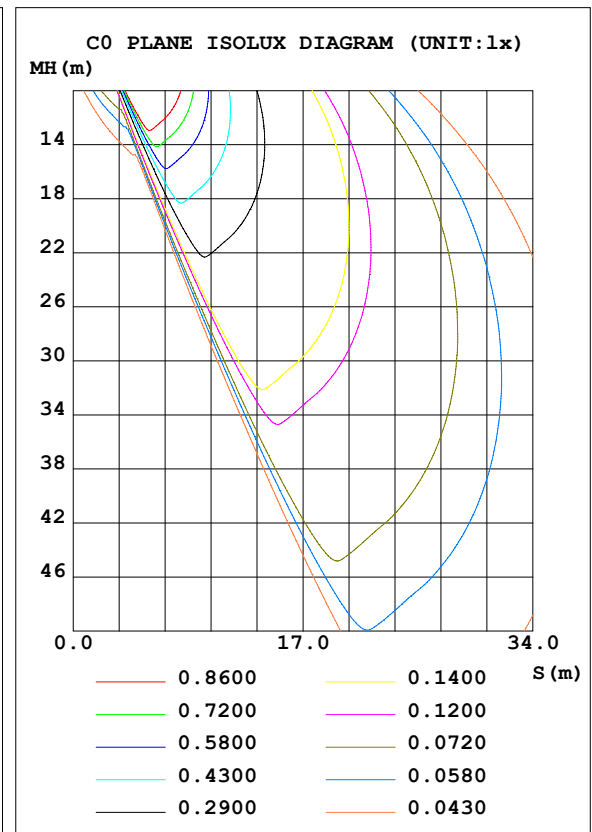
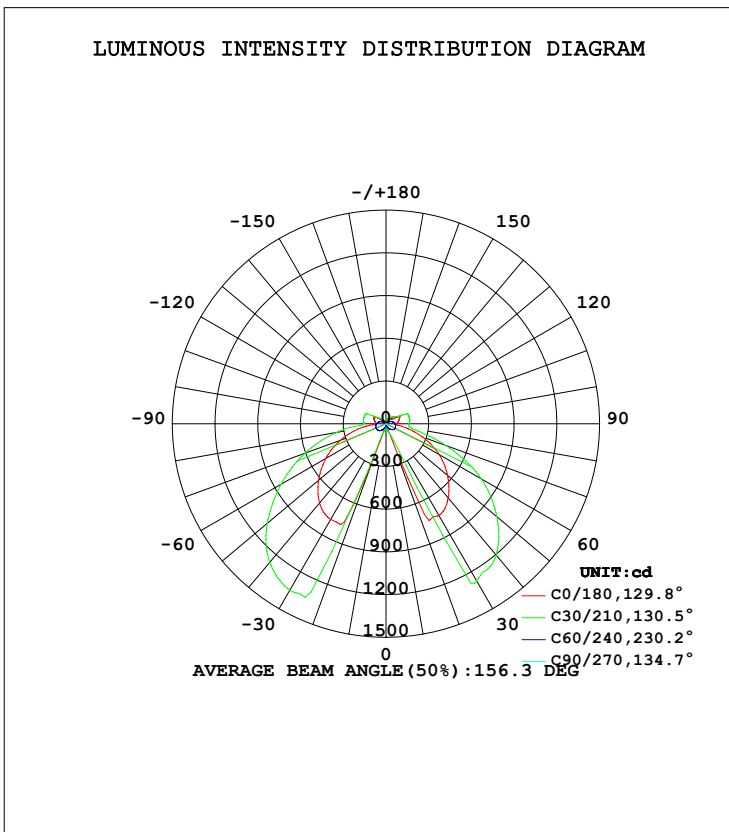


**LUMINAIRE PHOTOMETRIC TEST REPORT**

NAME: Niteo D	TYPE:LED	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	Niteo D	Imax (cd)	1847	S/MH (C0/180)	12.04
NOMINAL POWER (W)	4	LOR (%)	48.0	S/MH (C90/270)	0.03
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	404.14	η UP, DN (C0-180)	3.9, 20.7
NOMINAL FLUX (lm)	841.968	CIE CLASS	SEMI-D.	η UP, DN (C180-360)	3.8, 19.6
LAMPS INSIDE	1	η up (%)	7.7	CIBSE SHR NOM	0.00
TEST VOLTAGE (V)	220.3	η down (%)	40.3	CIBSE SHR MAX	1.00



C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: DOBAC  
Test Date: 2017-11-27

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity: 65.0%  
Test Distance: 6.960m [K=1.0000]  
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	$\Phi$ lum,lamp
10	28.01	24.88	2.082	2.101	22.32	18.09	3.469	2.816	0- 10	0.3040	0.3040	0.08,0.04
20	249.6	43.65	5.377	4.156	50.59	36.07	3.660	4.961	10- 20	2.222	2.526	0.62,0.30
30	776.0	537.4	5.533	81.16	743.5	244.1	3.829	75.03	20- 30	33.29	35.82	8.86,4.25
40	726.1	489.1	5.477	78.88	679.5	496.6	3.868	82.48	30- 40	65.40	101.2	25,12
50	618.0	360.8	5.166	52.44	564.0	361.9	3.708	52.55	40- 50	69.38	170.6	42.2,20.3
60	488.1	295.7	4.332	31.09	430.6	282.9	3.106	15.93	50- 60	63.13	233.7	57.8,27.8
70	342.0	223.6	2.884	22.33	272.9	176.1	2.186	25.38	60- 70	50.94	284.7	70.4,33.8
80	186.9	145.2	1.505	14.60	124.3	94.30	1.075	13.70	70- 80	35.05	319.7	79.1,38
90	70.92	91.66	0.8049	10.64	74.31	92.63	0.1338	10.06	80- 90	19.81	339.5	84,40.3
100	77.44	88.33	0.7892	10.40	87.12	87.30	0.0467	10.37	90-100	17.05	356.6	88.2,42.3
110	88.91	75.48	0.8545	9.155	100.5	75.25	0.0514	9.053	100-110	16.30	372.9	92.3,44.3
120	100.2	46.68	0.7585	6.058	98.83	50.19	0.0654	5.728	110-120	14.07	386.9	95.7,46
130	41.52	30.74	0.4316	4.839	52.64	38.77	0.0817	3.731	120-130	8.220	395.1	97.8,46.9
140	25.57	19.21	0.2264	3.861	40.86	29.57	0.1120	2.192	130-140	4.658	399.8	98.9,47.5
150	14.15	10.21	0.2171	3.086	30.61	21.90	0.1657	1.071	140-150	2.619	402.4	99.6,47.8
160	5.967	3.741	0.1633	2.456	22.72	15.31	0.1961	0.4202	150-160	1.261	403.7	99.9,47.9
170	1.380	1.087	0.1377	0.5026	9.803	2.560	0.1704	0.0833	160-170	0.4278	404.1	100,48
180	0.4855	0.4082	0.0864	0.0721	0.4377	0.4037	0.0887	0.0711	170-180	0.0286	404.1	100,48
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

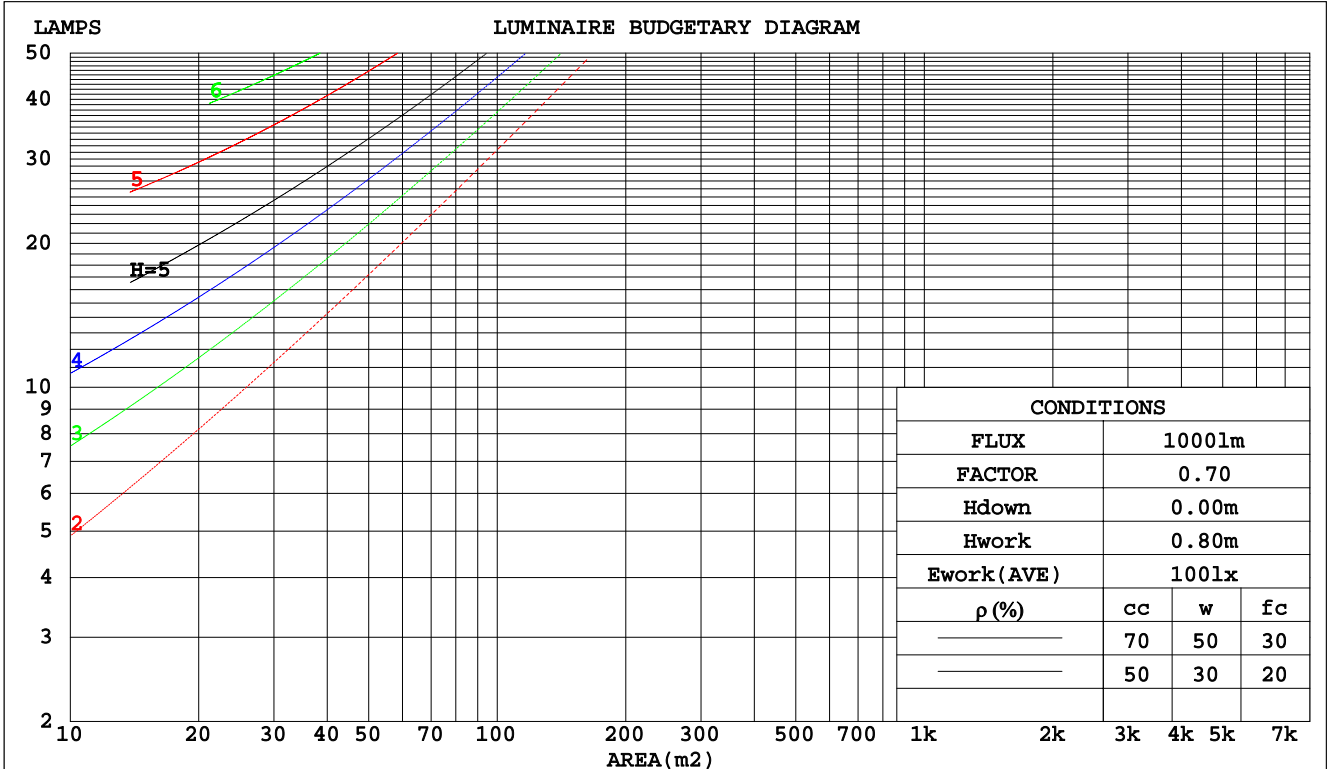
C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-11-27

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

NAME: Niteo D	TYPE:LED	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

pcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pw																
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
0.0	.55	.55	.55	.53	.53	.53	.49	.49	.49	.45	.45	.45	.42	.42	.42	.40
1.0	.47	.44	.42	.45	.42	.40	.41	.39	.38	.38	.37	.35	.35	.34	.33	.31
2.0	.40	.36	.33	.38	.35	.32	.35	.32	.30	.32	.30	.28	.30	.28	.26	.25
3.0	.34	.30	.26	.33	.29	.25	.30	.27	.24	.28	.25	.22	.25	.23	.21	.20
4.0	.29	.25	.21	.28	.24	.21	.26	.22	.19	.24	.21	.18	.22	.19	.17	.16
5.0	.26	.21	.17	.25	.20	.17	.23	.19	.16	.21	.18	.15	.19	.17	.14	.13
6.0	.23	.18	.15	.22	.17	.14	.20	.16	.13	.18	.15	.13	.17	.14	.12	.11
7.0	.20	.16	.12	.19	.15	.12	.18	.14	.11	.16	.13	.11	.15	.12	.10	.09
8.0	.18	.14	.11	.17	.13	.10	.16	.12	.10	.15	.12	.09	.14	.11	.09	.08
9.0	.16	.12	.09	.16	.12	.09	.14	.11	.08	.13	.10	.08	.12	.10	.07	.06
10.0	.15	.11	.08	.14	.10	.08	.13	.10	.07	.12	.09	.07	.11	.08	.06	.06



C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DOBAC  
 Test Date: 2017-11-27

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
 Humidity: 65.0%  
 Test Distance: 6.960m [K=1.0000]  
 Remarks:

WEC AND CCEC

NAME: Niteo D	TYPE:LED	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.177	.101	.032	.171	.098	.031	.160	.092	.029	.150	.087	.028	.141	.082	.026	
2.0	.159	.087	.027	.154	.085	.026	.144	.080	.025	.135	.076	.024	.127	.072	.023	
3.0	.144	.077	.023	.140	.075	.023	.131	.071	.022	.122	.067	.021	.115	.064	.020	
4.0	.132	.068	.020	.127	.067	.020	.119	.063	.019	.112	.060	.018	.105	.057	.017	
5.0	.120	.061	.018	.117	.060	.017	.109	.057	.017	.102	.054	.016	.096	.051	.015	
6.0	.111	.056	.016	.107	.054	.016	.101	.052	.015	.094	.049	.014	.089	.047	.014	
7.0	.103	.051	.014	.099	.050	.014	.093	.047	.014	.088	.045	.013	.082	.043	.013	
8.0	.095	.047	.013	.092	.046	.013	.087	.043	.012	.082	.041	.012	.077	.039	.011	
9.0	.089	.043	.012	.086	.042	.012	.081	.040	.011	.076	.038	.011	.072	.036	.011	
10.0	.083	.040	.011	.081	.039	.011	.076	.037	.010	.072	.036	.010	.067	.034	.010	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.150	.150	.150	.128	.128	.128	.087	.087	.087	.050	.050	.050	.016	.016	.016	
1.0	.147	.134	.121	.126	.115	.104	.086	.079	.072	.050	.046	.042	.016	.015	.014	
2.0	.145	.123	.104	.124	.106	.090	.085	.073	.063	.049	.042	.037	.016	.014	.012	
3.0	.141	.115	.093	.121	.099	.081	.083	.069	.057	.048	.040	.033	.015	.013	.011	
4.0	.138	.109	.086	.119	.094	.075	.082	.065	.053	.047	.038	.031	.015	.012	.010	
5.0	.135	.104	.081	.116	.090	.071	.080	.063	.050	.046	.037	.030	.015	.012	.010	
6.0	.131	.100	.078	.113	.087	.068	.078	.061	.048	.045	.036	.029	.015	.012	.009	
7.0	.128	.097	.075	.110	.084	.066	.076	.059	.047	.044	.035	.028	.014	.011	.009	
8.0	.125	.095	.074	.108	.082	.064	.075	.058	.046	.043	.034	.027	.014	.011	.009	
9.0	.122	.092	.072	.105	.080	.063	.073	.056	.045	.042	.033	.027	.014	.011	.009	
10.0	.119	.090	.071	.103	.078	.062	.071	.055	.044	.042	.033	.026	.013	.011	.009	

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-11-27

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:

Uncorrected UGR Table

NAME: Niteo D		TYPE:LED					WEIGHT:				
DIM.:		SPEC.:					SERIAL No.:				
MFR.: DOBAC		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	28.9	30.4	29.4	30.9	31.4	16.3	17.7	16.8	18.2	18.8	
3H	30.8	32.2	31.4	32.7	33.3	16.8	18.1	17.3	18.6	19.2	
4H	31.7	33.0	32.2	33.5	34.1	17.0	18.3	17.5	18.8	19.4	
6H	32.5	33.7	33.0	34.2	34.8	17.2	18.4	17.8	18.9	19.6	
8H	32.8	33.9	33.4	34.5	35.1	17.3	18.4	17.9	19.0	19.6	
12H	33.0	34.1	33.6	34.7	35.3	17.4	18.5	17.9	19.0	19.7	
4H 2H	29.1	30.4	29.6	30.9	31.5	22.2	23.5	22.8	24.0	24.6	
3H	31.4	32.5	32.0	33.1	33.7	22.4	23.5	23.0	24.1	24.7	
4H	32.5	33.5	33.1	34.1	34.8	22.6	23.6	23.2	24.2	24.9	
6H	33.5	34.4	34.1	35.0	35.7	22.8	23.7	23.5	24.4	25.1	
8H	33.9	34.8	34.6	35.4	36.1	22.9	23.8	23.6	24.4	25.1	
12H	34.3	35.0	34.9	35.7	36.4	23.0	23.8	23.6	24.4	25.1	
8H 4H	32.6	33.4	33.2	34.1	34.8	25.5	26.3	26.1	27.0	27.7	
6H	33.9	34.6	34.6	35.3	36.0	25.9	26.6	26.6	27.3	28.0	
8H	34.5	35.2	35.2	35.8	36.6	26.2	26.8	26.9	27.5	28.3	
12H	35.0	35.6	35.7	36.3	37.1	26.4	26.9	27.1	27.6	28.4	
12H 4H	32.6	33.3	33.2	34.0	34.7	26.2	27.0	26.9	27.6	28.4	
6H	33.9	34.5	34.6	35.2	36.0	27.0	27.6	27.7	28.3	29.1	
8H	34.7	35.2	35.4	35.9	36.7	27.4	27.9	28.1	28.6	29.4	
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 0.1					+ 0.5 / - 0.2					
1.5H	+ 0.3 / - 0.3					+ 0.8 / - 0.7					
2.0H	+ 0.3 / - 0.5					+ 0.7 / - 1.0					

CIE Pub.117 Corrected 842.0 lm Total Lamp Luminous Flux. (8log(F/F0) = -0.6)

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-11-27

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:

UTILIZATION FACTORS TABLE

NAME: Niteo D	TYPE:LED	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

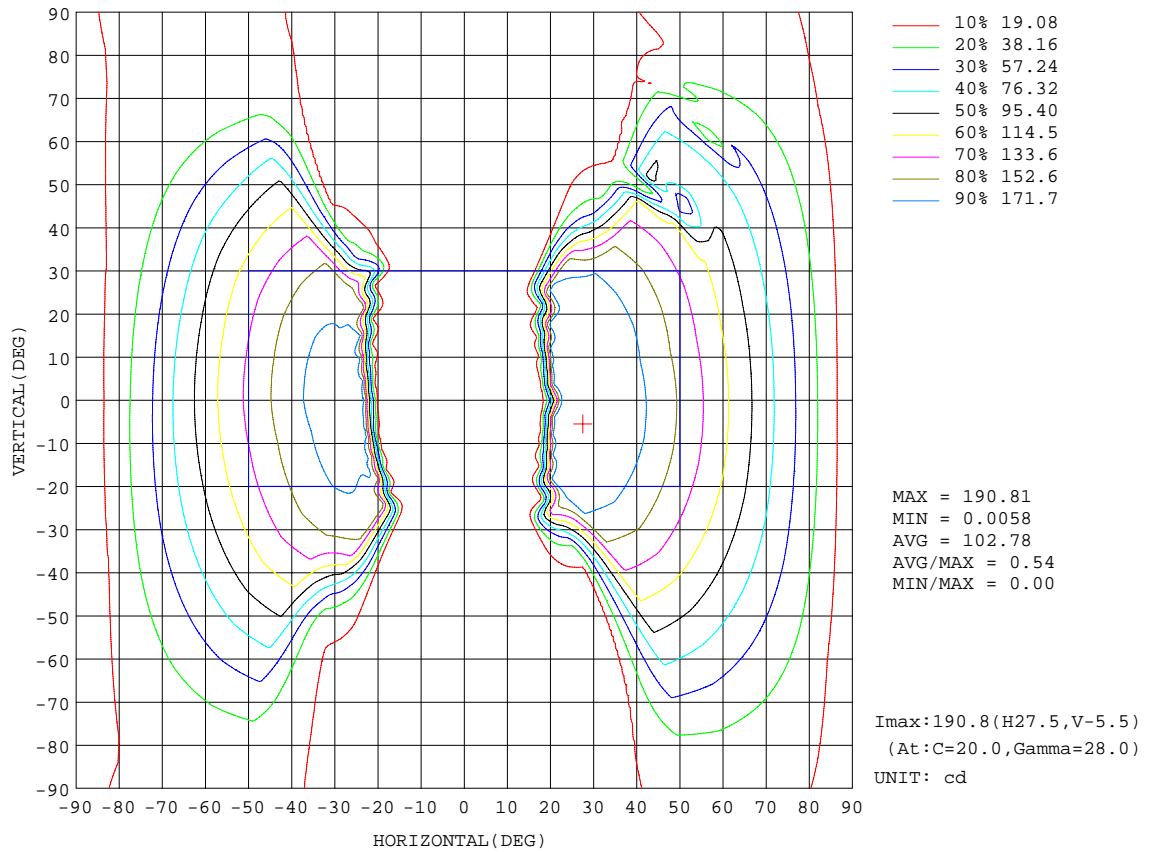
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	22	15	12	21	15	12	20	15	12	8
0.80	27	20	16	26	20	16	24	19	15	12
1.00	31	24	20	30	24	20	28	24	19	15
1.25	34	28	24	33	28	24	31	26	23	18
1.50	37	31	27	36	30	27	33	29	26	21
2.00	41	36	32	39	35	31	37	33	30	24
2.50	43	38	35	41	37	34	39	35	32	26
3.00	45	41	37	43	39	36	40	37	34	28
4.00	47	44	41	45	42	39	42	39	37	31
5.00	49	45	43	47	44	41	43	41	39	32
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:25.3DEG  
 Operators:DOBAC  
 Test Date:2017-11-27

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
 Humidity:65.0%  
 Test Distance:6.960m [K=1.0000]  
 Remarks:

ISOCANDELA DIAGRAM

NAME: Niteo D	TYPE:LED	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

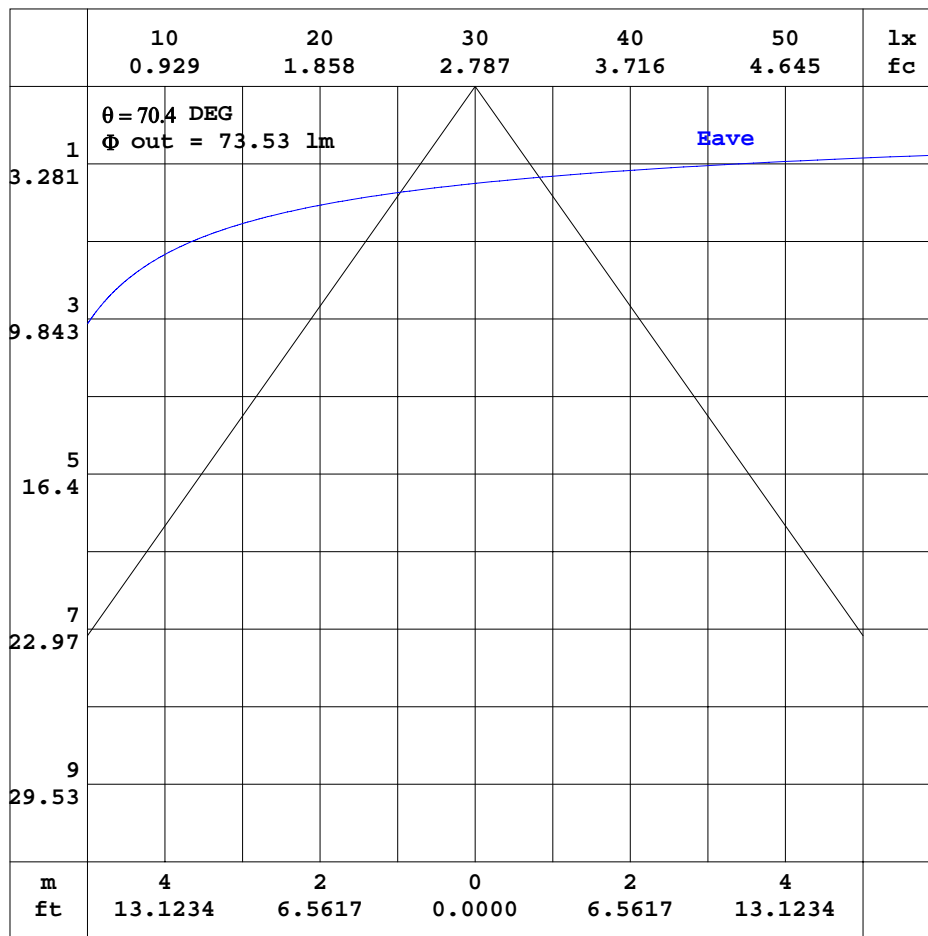


C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: DOBAC  
Test Date: 2017-11-27

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity: 65.0%  
Test Distance: 6.960m [K=1.0000]  
Remarks:

AAI CURVES

NAME: Niteo D	TYPE:LED	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:



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

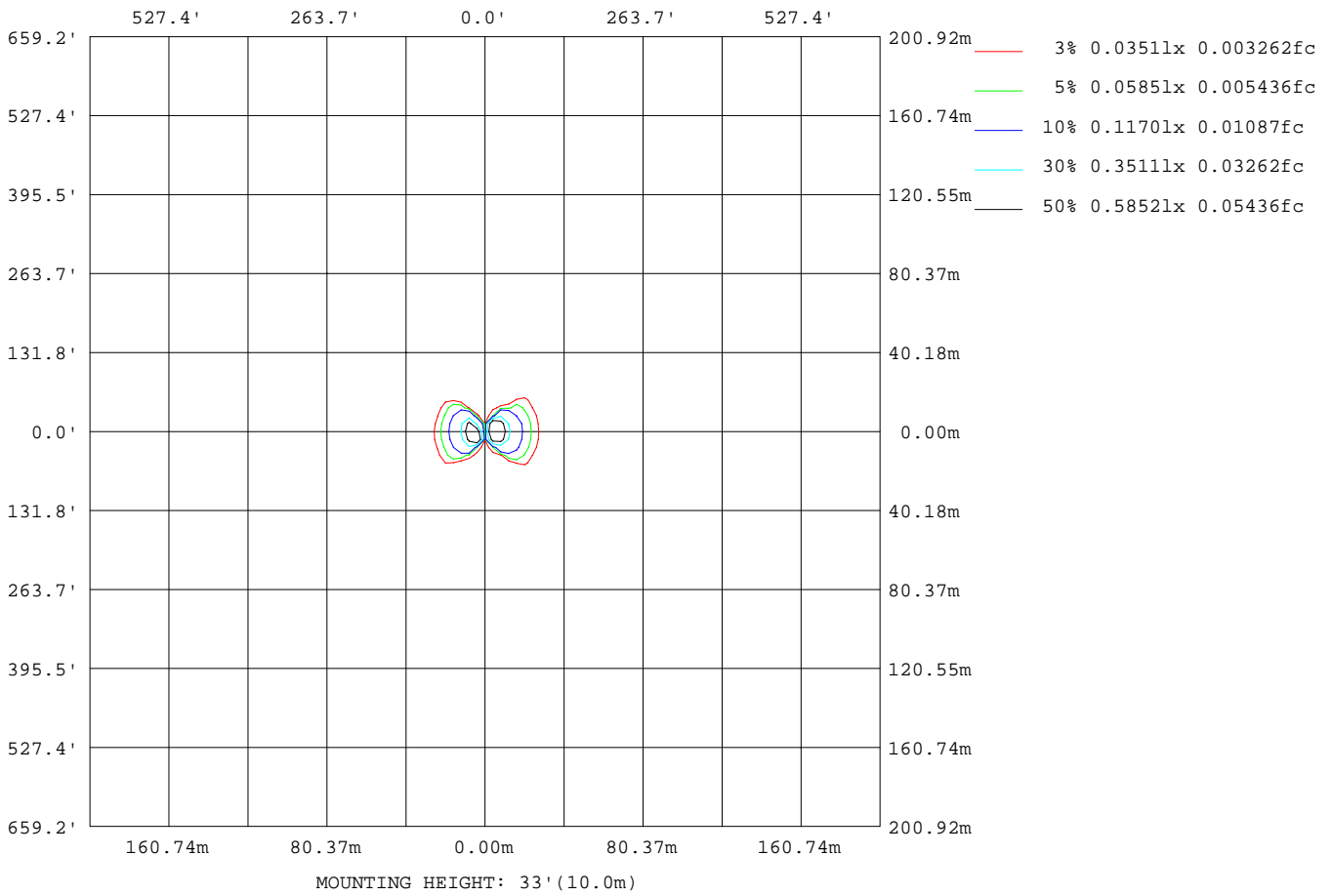
C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: DOBAC  
Test Date: 2017-11-27

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity: 65.0%  
Test Distance: 6.960m [K=1.0000]  
Remarks:



ISOLUX DIAGRAM

NAME: Niteo D	TYPE:LED	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DOBAC  
 Test Date: 2017-11-27

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
 Humidity: 65.0%  
 Test Distance: 6.960m [K=1.0000]  
 Remarks:

**Average Luminance Table(CIBSE)**

NAME: Niteo D	TYPE:LED	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

Parameter description for average Luminance	Symbol	Value	Unit
Luminance in Azimuth Plane	Bc	refer Table 2	cd/sq.m.
Intensity at angle Gamma in given azimuth plane	I	from data	cd/klm
Number of lamps	N	1	
Output of each lamp(initial lumens as specified)	F	841.968	lm
Multiplying factor	K	1	
Luminous area in horizontal plane used in calculations	A	0.0038	sq.m.
Angle to the downward vertical from light centre	Gamma	from data	deg

Table 1. Calculation parameters for determination of CIBSE LG3:1996 Average Luminance

G deg	C plane(deg)																			
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	
55	254345427750407844539808581336693384524009	6510	2224	2906	4012	4561	9965	26159	24641	24337	22402	229170								
60	256876488250836744825711977389873964027677	7423	2280	3601	4800	5370	6122	26018	24457	24075	22208	226641								
65	25951556435162355402417445465794728432189	8512	2263	4389	5716	6456	6414	25934	24299	23822	21858	220645								
70	26311667045286746388324814580985831638561	9973	2219	5375	6950	8019	7958	25877	24205	23530	21305	209963								
75	26813786974524848409933618772787595548871	12153	2207	6767	8890	10525	10604	26305	24371	23555	20703	196251								
80	28317533418201183426459734157671104686911	216420	2280	9416	12677	15419	15939	27964	25835	24554	20736	188320								
85	2955070024341667642146032229620124642936	229250	3332	17317	23967	29864	31872	32610	30098	28610	24069	225779								

Table 2. Average Luminance(cd/sq.m.) for defined C plane,Gamma angle

CIBSE Category	Gamma (deg)	Average Luminance		Patch Luminance	
		maximum	specified	maximum	specified
		calculated	maximum	measured	maximum
Category 1	55 to 90	841667	200	---	500
Category 2	65 to 90	841667	200	---	500
Category 3	75 to 90	841667	200	---	500

Table 3. Tabulation of Average and Patch Luminance(cd/sq.m.) for defined CIBSE categories

No match

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-11-27

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:

**Average Luminance Table(CIBSE)**

NAME: Niteo D	TYPE:LED	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

Parameter description for average Luminance	Symbol	Value	Unit
Luminance in Azimuth Plane	Bc	refer Table 2	cd/sq.m.
Intensity at angle Gamma in given azimuth plane	I	from data	cd/klm
Number of lamps	N	1	
Output of each lamp(initial lumens as specified)	F	841.968	lm
Multiplying factor	K	1	
Luminous area in horizontal plane used in calculations	A	0.0038	sq.m.
Angle to the downward vertical from light centre	Gamma	from data	deg

Table 1. Calculation parameters for determination of CIBSE LG3:2001 Average Luminance

G deg	C plane(deg)																		
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
55	254345427750407844539808581336693384524009	6510	2224	2906	4012	4561	9965	26159246412433722402229170											
60	256876488250836744825711977389873964027677	7423	2280	3601	4800	5370	6122	26018244572407522208226641											
65	25951556435162385402417445465794728432189	8512	2263	4389	5716	6456	6414	25934242992382221858220645											
70	26311667045286746388324814580985831638561	9973	2219	5375	6950	8019	7958	25877242052353021305209963											
75	26813786974524848409933618772787595548871	12153	2207	6767	8890	10525	10604	26305243712355520703196251											
80	28317533418201183426459734157671104686911	216420	2280	9416	12677	15419	15939	27964258352455420736188320											
85	2955070024341667642146032229620124642936	229250	3332	17317	23967	29864	31872	32610300982861024069225779											

Table 2. Average Luminance(cd/sq.m.) for defined C plane,Gamma angle

range (deg)	Maximum measured	Average Luminance(cd/sq.m)			
		Maximum limit for screen type & software category used			
		Type I,II screen Some neg.s'ware	Type I,II screen Only pos.s'ware	Type III screen Some neg.s'ware	Type III screen Only pos.s'ware
55 to 90	841667	1000	1500	200	500
65 to 90	841667	1000	1500	200	500

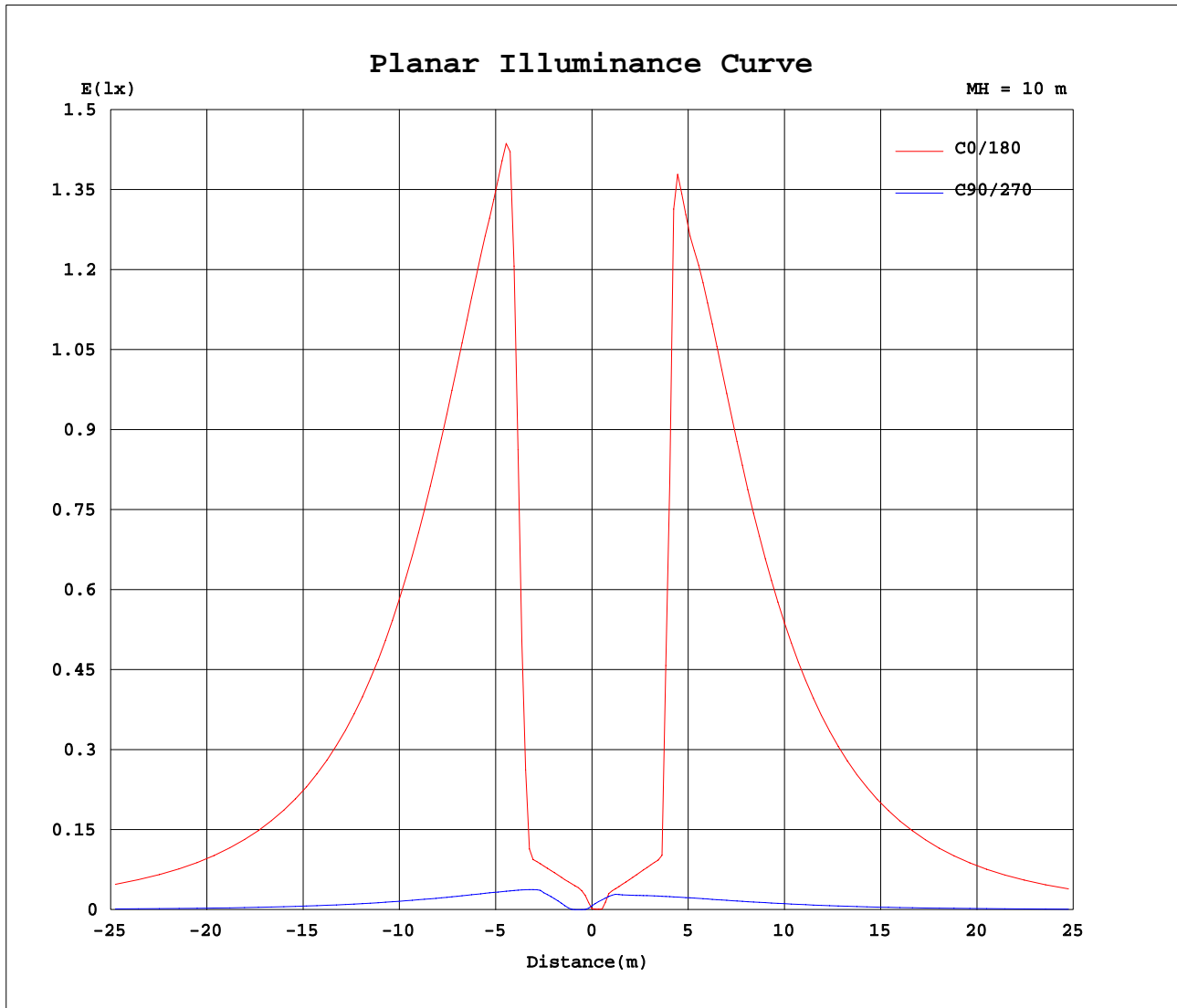
Table 3. Tabulation of average luminance(cd/sq.m.) and luminance limits

No match

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-11-27

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DOBAC  
 Test Date: 2017-11-27

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
 Humidity: 65.0%  
 Test Distance: 6.960m [K=1.0000]  
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: Niteo D	TYPE:LED	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

Table--1

UNIT: cd

C( DEG) γ (DEG)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
0	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
5	18.6	39.6	39.4	20.3	10.2	4.37	2.75	0.61	0.01	0.01	0.02	0.05	0.17	0.33	0.739	2.9008	1.15	1.14	12.5
10	28.0	58.5	64.4	45.2	30.9	20.4	17.9	11.1	3.91	2.08	1.81	1.69	2.02	2.02	2.18	2.13	2.27	2.13	22.3
15	39.3	83.0	90.8	62.6	42.0	27.1	27.1	20.0	8.12	4.86	3.73	2.41	2.71	2.86	3.19	3.20	3.45	3.25	34.0
20	250	900	599	88.9	55.5	34.8	33.6	23.8	8.96	5.38	4.13	2.92	3.52	3.87	4.42	4.53	4.92	4.81	50.6
25	775	1654	1825	1344	546	43.8	40.7	27.8	9.82	5.48	3.10	3.53	4.48	5.09	32.5	70.0	77.7	72.0	741
30	776	1660	1841	1349	950	230	48.6	31.7	10.7	5.53	3.44	4.34	5.55	79.6	82.6	77.1	77.7	72.1	743
35	761	1622	1800	1322	938	431	56.5	35.8	11.4	5.52	3.86	5.04	6.94	83.5	82.8	76.6	76.3	70.4	724
40	726	1546	1721	1270	895	186	63.7	40.1	12.4	5.48	4.31	5.84	7.84	78.5	79.3	72.9	72.1	66.3	679
45	677	1441	1607	1192	822	84.4	69.0	44.6	13.3	5.40	5.12	6.78	8.95	62.7	72.4	67.4	66.5	61.0	625
50	618	1317	1469	1087	747	72.5	71.9	49.1	13.9	5.17	5.67	7.89	9.56	39.7	64.5	60.8	60.0	55.1	564
55	554	1183	1317	971	673	73.4	73.8	52.3	14.2	4.85	6.33	8.75	9.94	21.7	57.0	53.7	53.0	48.8	499
60	488	1043	1156	852	593	74.1	75.3	52.6	14.1	4.33	6.84	9.12	10.2	11.6	49.4	46.5	45.7	42.2	431
65	417	894	990	729	510	74.8	75.9	51.7	13.7	3.63	7.05	9.18	10.4	10.3	41.6	39.0	38.3	35.1	354
70	342	737	817	603	422	75.5	75.8	50.1	13.0	2.88	6.99	9.03	10.4	10.3	33.6	31.5	30.6	27.7	273
75	264	577	642	476	328	76.0	74.7	48.1	12.0	2.17	6.66	8.74	10.4	10.4	25.9	24.0	23.2	20.4	193
80	187	418	475	353	237	76.4	72.9	45.6	10.8	1.50	6.21	8.36	10.2	10.5	18.5	17.0	16.2	13.7	124
85	97.9	232	279	220	152	76.0	70.4	42.8	9.69	1.10	5.74	7.94	9.89	10.6	10.8	9.97	9.48	7.97	74.8
90	70.9	167	203	157	114	75.2	67.2	39.9	8.48	0.80	5.24	7.50	9.54	10.6	10.7	9.83	9.35	7.87	74.3
95	71.7	168	204	158	114	73.9	63.6	36.9	7.33	0.72	4.81	7.07	9.08	10.4	11.0	10.2	9.83	8.41	80.7
100	77.4	178	213	162	113	69.9	58.1	33.3	6.28	0.79	4.40	6.58	8.38	9.89	10.9	10.5	10.2	8.93	87.1
105	83.1	188	220	162	108	63.3	51.1	29.3	5.13	0.85	4.00	6.01	7.52	9.09	10.6	10.5	10.6	9.43	93.8
110	88.9	196	224	161	102	55.6	43.3	25.1	3.83	0.85	3.62	5.43	6.63	8.08	10.2	10.6	10.9	9.92	101
115	94.6	204	228	159	91.8	43.5	36.5	20.8	2.75	0.88	3.26	4.87	5.94	6.50	8.45	10.6	11.2	10.4	107
120	100	212	216	123	62.1	35.2	30.4	16.8	1.79	0.76	2.94	4.36	5.33	5.72	6.37	7.18	8.73	9.23	98.8
125	65.1	132	128	79.9	48.8	29.2	24.9	13.1	0.91	0.58	2.57	3.90	4.79	5.14	5.60	5.65	6.09	6.05	64.2
130	41.5	87.6	93.2	63.4	39.9	23.9	19.9	9.64	0.31	0.43	2.40	3.53	4.31	4.61	5.05	5.01	5.28	5.04	52.6
135	32.5	69.2	74.6	51.0	32.1	19.1	15.6	6.87	0.20	0.31	2.22	3.22	3.89	4.15	4.50	4.49	4.73	4.52	46.6
140	25.6	54.7	58.7	40.1	25.1	14.8	11.6	4.56	0.20	0.23	1.81	2.96	3.52	3.71	4.00	3.98	4.21	4.04	40.9
145	19.4	41.6	44.5	30.5	18.9	11.0	8.16	2.73	0.23	0.21	1.31	2.65	3.21	3.33	3.54	3.51	3.73	3.55	35.5
150	14.2	30.4	32.3	22.0	13.6	7.71	5.25	1.21	0.26	0.22	0.75	2.30	2.94	3.00	3.16	3.12	3.27	3.09	30.6
155	9.52	20.7	22.0	15.1	9.03	4.95	2.91	0.87	0.31	0.21	0.44	1.61	2.58	2.75	2.84	2.77	2.89	2.71	26.3
160	5.97	13.0	13.8	9.31	5.36	2.53	1.33	0.82	0.31	0.16	0.32	0.7983	1.86	2.36	2.55	2.47	2.53	2.36	22.7
165	3.37	7.39	7.52	4.56	2.37	1.12	1.09	0.73	0.31	0.14	0.19	0.28	0.8000	1.39	1.94	2.05	2.21	2.06	19.7
170	1.38	2.77	2.98	1.87	1.36	0.88	0.93	0.64	0.29	0.14	0.15	0.15	0.20	0.37	0.6230	0.8049	0.9828	1.05	9.80
175	0.90	1.69	1.82	1.13	0.93	0.63	0.72	0.52	0.28	0.14	0.13	0.12	0.12	0.12	0.11	0.11	0.12	0.12	0.56
180	0.49	0.93	1.00	0.69	0.50	0.34	0.35	0.31	0.15	0.09	0.07	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.44

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-11-27

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: Niteo D	TYPE:LED	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

Table--2

UNIT: cd

C( DEG) γ (DEG)	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350		
0	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.8619	0.8619	0.8619	0.8619	0.8619	0.8619	0.8619		
5	27.1	28.4	20.0	13.0	10.3	12.7	12.3	6.42	3.03	2.47	2.20	2.11	1.98	1.98	1.89	1.92	1.81		
10	47.0	49.9	34.8	22.6	14.7	20.2	17.7	8.84	3.47	3.05	2.71	2.78	2.77	2.86	2.79	2.88	2.72		
15	72.0	76.4	52.6	33.4	20.8	18.9	18.4	8.88	3.55	3.48	3.34	3.58	3.66	3.88	3.88	4.06	3.83		
20	104	111	75.2	46.7	28.1	24.3	15.1	8.80	3.66	3.92	3.98	4.46	4.74	5.17	6.85	29.6	46.8		
25	1575	1413	132	62.4	36.4	30.4	17.7	8.62	3.76	4.41	4.68	5.48	6.08	61.6	81.9	81.9	76.2		
30	1566	1718	1274	510	45.8	37.1	20.5	8.39	3.83	4.87	5.45	6.65	61.0	88.2	82.5	83.0	76.4		
35	1535	1710	1246	891	322	44.2	23.5	7.73	3.85	5.30	6.22	7.82	88.2	87.8	81.2	81.5	74.7		
40	1447	1626	1203	859	226	51.3	26.8	5.97	3.87	5.77	7.03	8.88	79.8	85.0	78.1	77.9	71.2		
45	1331	1506	1120	805	137	58.5	30.0	6.13	3.84	6.24	7.84	9.46	55.8	79.3	73.3	72.7	66.2		
50	1202	1365	1017	727	89.4	65.7	33.8	6.56	3.71	6.66	8.64	9.81	32.2	71.8	67.1	66.5	60.5		
55	1065	1213	902	647	74.5	69.5	37.1	6.76	3.46	6.98	9.09	10.1	17.7	64.1	60.1	59.7	54.4		
60	916	1045	773	561	75.1	71.5	39.7	7.10	3.11	7.09	9.19	10.1	10.6	20.9	51.5	52.7	47.9		
65	747	845	617	454	75.6	72.2	40.7	7.20	2.66	6.99	9.01	10.1	9.82	48.5	26.5	45.3	41.0		
70	558	624	447	310	76.1	71.8	40.0	6.84	2.19	6.61	8.59	9.97	9.98	39.9	36.6	37.1	33.5		
75	387	414	287	182	76.5	70.9	38.8	6.27	1.67	6.00	7.81	9.02	9.07	29.4	9.50	28.2	25.7		
80	253	269	180	118	76.7	68.3	36.2	5.36	1.07	5.14	7.16	9.14	9.01	18.1	18.3	19.1	17.8		
85	175	211	163	116	76.1	64.7	33.2	4.35	0.52	4.18	6.25	8.02	8.23	10.1	10.6	10.8	9.69		
90	174	210	163	117	74.5	61.8	30.4	3.47	0.13	4.00	6.63	8.73	9.83	10.3	9.49	8.99	7.56		
95	187	221	167	117	72.1	59.0	28.1	2.53	0.04	4.14	6.86	9.04	10.4	10.7	9.70	9.13	7.66		
100	198	230	170	114	67.2	55.0	25.8	1.74	0.05	3.57	6.21	8.37	10.00	10.7	9.99	9.54	8.14		
105	209	237	170	109	61.3	50.0	23.6	1.24	0.05	3.02	5.43	7.35	9.15	10.4	10.1	9.88	8.60		
110	219	243	170	104	53.7	44.3	21.6	1.29	0.05	2.47	4.67	6.21	8.09	9.96	10.1	10.2	9.04		
115	230	249	167	85.7	44.2	39.3	19.8	1.48	0.06	1.98	3.93	5.23	6.39	9.45	10.0	10.4	9.45		
120	199	194	112	65.2	39.0	34.7	17.0	1.58	0.07	1.24	3.24	4.42	5.03	6.39	8.14	10.3	9.83		
125	132	135	89.0	56.8	34.4	30.4	13.3	1.86	0.07	0.86	2.34	3.68	4.21	4.87	5.18	6.11	6.16		
130	111	117	78.4	50.1	30.3	26.0	9.78	1.28	0.08	0.56	1.86	2.75	3.47	3.98	4.07	4.36	4.08		
135	98.2	104	69.3	44.1	26.6	21.1	7.37	0.51	0.09	0.25	1.41	2.12	2.79	3.21	3.29	3.49	3.21		
140	86.2	91.3	60.8	38.5	22.9	17.5	5.36	0.97	0.11	0.17	0.9850	1.75	1.83	2.53	2.59	2.75	2.51		
145	75.1	78.9	52.8	33.4	19.5	14.6	2.53	0.80	0.14	0.16	0.63	1.21	1.41	1.89	1.97	2.09	1.90		
150	64.2	67.9	45.7	28.8	16.8	11.7	2.63	0.60	0.17	0.16	0.37	0.8156	1.07	1.07	1.38	1.48	1.36		
155	54.9	58.3	39.3	24.8	14.1	7.98	2.39	0.41	0.19	0.16	0.18	0.47	0.6781	0.7846	0.8925	0.9682	0.9010		
160	47.1	50.1	33.6	21.4	10.8	5.39	1.14	0.33	0.20	0.15	0.15	0.20	0.35	0.49	0.42	0.5836	0.5406		
165	40.1	42.4	27.0	15.2	5.57	2.27	0.69	0.30	0.18	0.14	0.13	0.13	0.14	0.21	0.25	0.29	0.27		
170	18.2	17.4	9.13	4.22	1.32	0.68	0.60	0.27	0.17	0.13	0.11	0.10	0.09	0.08	0.08	0.08	0.08		
175	1.16	1.08	0.88	0.65	0.55	0.59	0.57	0.26	0.16	0.12	0.10	0.09	0.08	0.06	0.06	0.06	0.06		
180	0.90	0.99	0.68	0.49	0.34	0.36	0.30	0.16	0.09	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07		

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