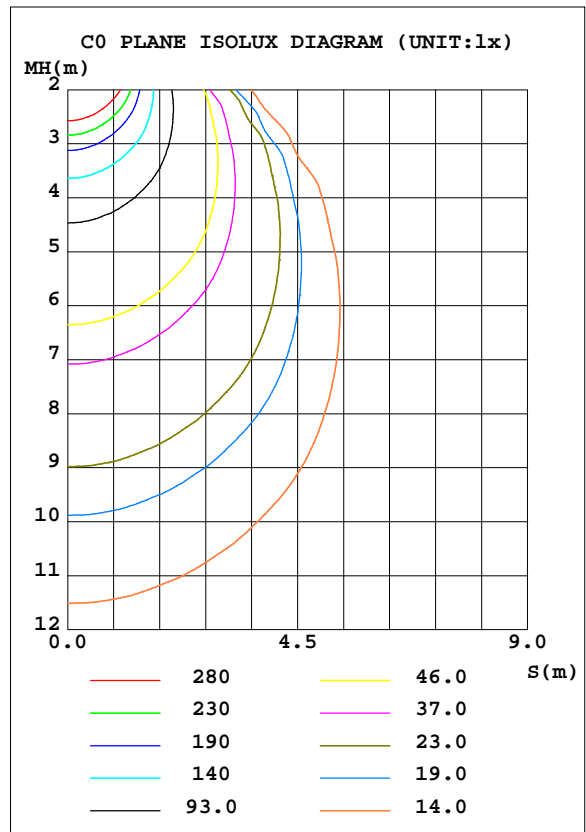
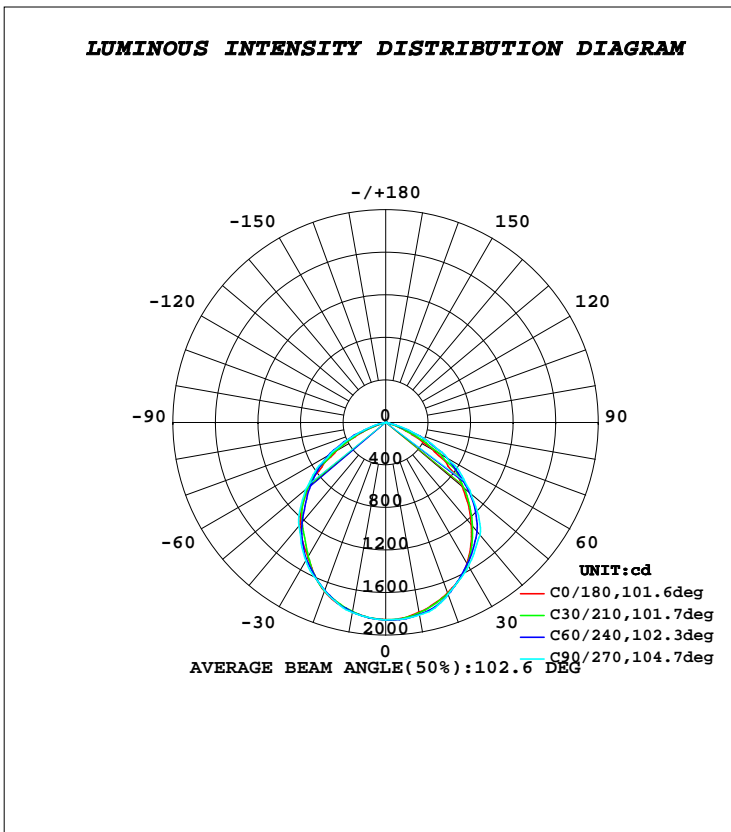


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:230.1V I:0.2570A P:52.46W PF:0.8872 Lamp Flux:4340.96x1 lm		
NAME:	TYPE:3000K	WEIGHT:
SPEC.:10010	DIM.: 270*170*40mm	SERIAL No.:
MFR.: VNILS	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 82.74 lm/W			
MODEL		I _{max} (cd)	1860	S/MH(C0/180)	1.18
NOMINAL POWER(W)	100	LOR(%)	100.0	S/MH(C90/270)	1.21
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	4341.0	η UP, DN(C0-180)	0.0, 51.0
NOMINAL FLUX(lm)	4340.96	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 49.0
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Lauhin
 Test Date: 2019-06-04

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.0.285
 Humidity: 65.0%
 Test Distance: 26.000m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	1811	1829	1838	1822	1810	1804	1815	1810	0- 10	175.5	175.5	4.04,4.04
20	1704	1722	1721	1721	1688	1685	1682	1686	10- 20	499.6	675.1	15.6,15.6
30	1532	1542	1558	1522	1464	1469	1503	1502	20- 30	743.1	1418	32.7,32.7
40	1253	1301	1381	1269	1256	1200	1271	1263	30- 40	873.6	2292	52.8,52.8
50	945.4	1000	1046	1025	954.1	933.4	989.1	937.8	40- 50	874.8	3167	72.9,72.9
60	510.6	643.4	669.1	662.3	539.1	615.9	609.7	605.7	50- 60	714.4	3881	89.4,89.4
70	122.5	204.6	265.0	234.2	135.1	197.2	221.1	185.2	60- 70	388.5	4270	98.4,98.4
80	2.483	1.759	2.458	1.749	3.313	3.021	3.855	3.142	70- 80	70.52	4340	100,100
90	0	0	0	0	0	0	0	0	80- 90	0.9096	4341	100,100
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		

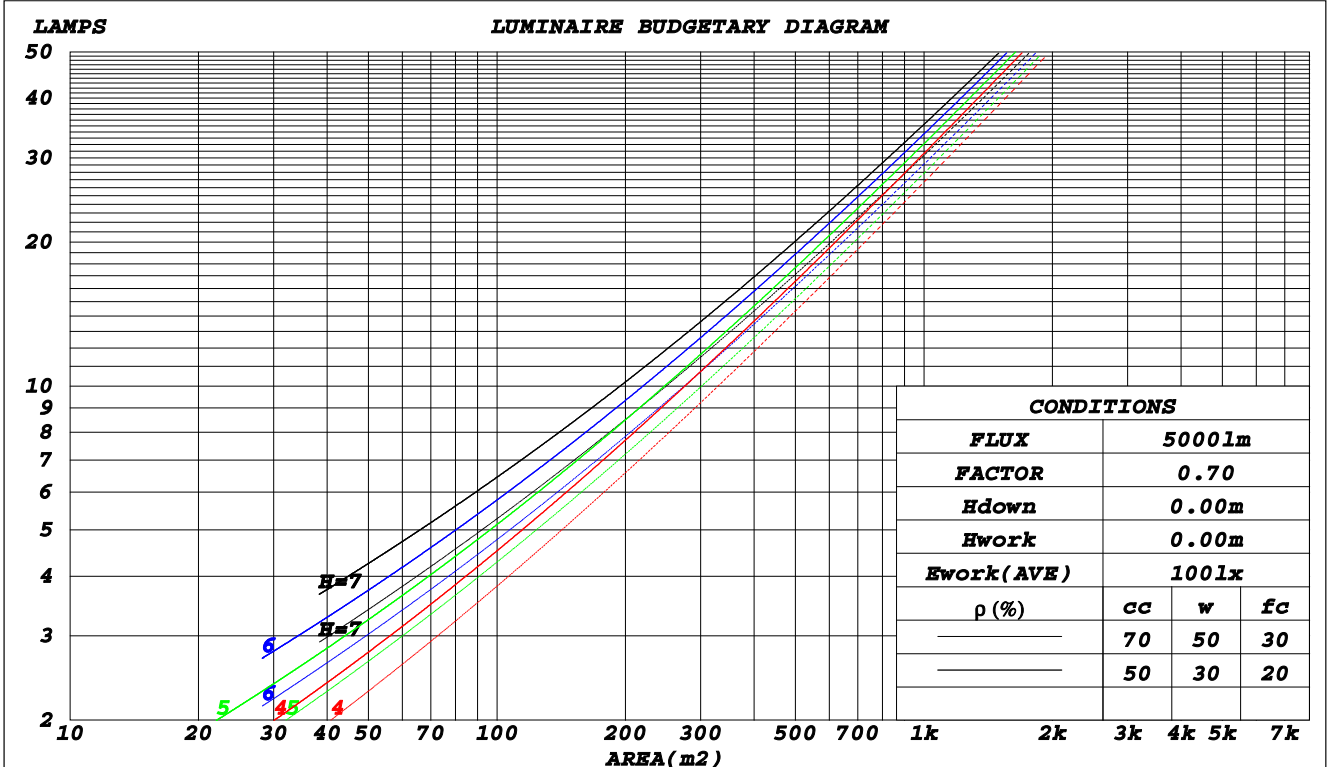
C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Lauhin
 Test Date:2019-06-04

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.285
 Humidity:65.0%
 Test Distance:26.000m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.1V I:0.2570A P:52.46W PF:0.8872 Lamp Flux:4340.96x1 lm		
NAME:	TYPE:3000K	WEIGHT:
SPEC.:10010	DIM.: 270*170*40mm	SERIAL No.:
MFR.: VNILS	SUR.:	PROTECTION ANGLE:

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	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	1.07	1.03	1.00	1.05	1.01	.99	1.00	.98	.95	.97	.94	.93	.93	.91	.90	.88
2.0	.95	.89	.84	.93	.88	.83	.90	.85	.81	.86	.83	.79	.83	.80	.78	.76
3.0	.84	.77	.71	.83	.76	.71	.80	.74	.69	.77	.72	.68	.75	.71	.67	.65
4.0	.75	.67	.61	.74	.67	.61	.72	.65	.60	.69	.64	.59	.67	.62	.58	.56
5.0	.68	.59	.53	.67	.59	.53	.65	.58	.52	.63	.57	.52	.61	.56	.51	.49
6.0	.61	.53	.47	.60	.52	.47	.59	.51	.46	.57	.51	.46	.55	.50	.45	.44
7.0	.56	.47	.42	.55	.47	.41	.53	.46	.41	.52	.46	.41	.51	.45	.41	.39
8.0	.51	.43	.37	.50	.42	.37	.49	.42	.37	.48	.41	.37	.47	.41	.36	.35
9.0	.47	.39	.34	.46	.39	.34	.45	.38	.33	.44	.38	.33	.43	.37	.33	.31
10.0	.43	.36	.31	.43	.35	.30	.42	.35	.30	.41	.35	.30	.40	.34	.30	.28



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Lauhin
 Test Date: 2019-06-04

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.0.285
 Humidity: 65.0%
 Test Distance: 26.000m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:230.1V I:0.2570A P:52.46W PF:0.8872 Lamp Flux:4340.96x1 lm		
NAME:	TYPE:3000K	WEIGHT:
SPEC.:10010	DIM.: 270*170*40mm	SERIAL No.:
MFR.: VNILS	SUR.:	PROTECTION ANGLE:

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.253	.144	.046	.246	.141	.045	.233	.134	.043	.222	.128	.041	.211	.122	.039	
2.0	.250	.137	.042	.244	.134	.041	.232	.129	.040	.222	.124	.039	.212	.120	.038	
3.0	.238	.127	.038	.233	.125	.038	.223	.121	.037	.214	.117	.036	.205	.114	.035	
4.0	.225	.117	.034	.220	.115	.034	.211	.112	.033	.203	.109	.033	.195	.106	.032	
5.0	.211	.108	.031	.207	.106	.031	.199	.104	.031	.192	.101	.030	.185	.099	.030	
6.0	.198	.099	.028	.195	.098	.028	.188	.096	.028	.181	.094	.028	.175	.092	.027	
7.0	.186	.092	.026	.183	.091	.026	.177	.089	.026	.171	.088	.026	.166	.086	.025	
8.0	.176	.086	.024	.173	.085	.024	.167	.083	.024	.162	.082	.024	.157	.080	.023	
9.0	.166	.080	.022	.163	.079	.022	.158	.078	.022	.153	.077	.022	.149	.075	.022	
10.0	.156	.075	.021	.154	.074	.021	.150	.073	.021	.145	.072	.021	.141	.071	.020	

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0																
1.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
2.0	.167	.132	.103	.143	.114	.089	.098	.079	.062	.056	.046	.036	.018	.015	.012	
3.0	.158	.114	.079	.136	.098	.068	.093	.068	.048	.054	.040	.028	.017	.013	.009	
4.0	.151	.100	.062	.129	.087	.054	.089	.060	.038	.051	.035	.022	.017	.012	.007	
5.0	.144	.090	.050	.123	.078	.044	.085	.054	.031	.049	.032	.018	.016	.010	.006	
6.0	.137	.081	.041	.118	.070	.036	.081	.049	.025	.047	.029	.015	.015	.009	.005	
7.0	.131	.074	.035	.112	.064	.030	.078	.045	.022	.045	.027	.013	.015	.009	.004	
8.0	.125	.069	.030	.107	.059	.026	.074	.042	.019	.043	.025	.011	.014	.008	.004	
9.0	.119	.064	.026	.103	.055	.023	.071	.039	.016	.041	.023	.010	.013	.008	.003	
10.0	.114	.059	.023	.098	.052	.020	.068	.036	.014	.040	.021	.009	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Lauhin
 Test Date:2019-06-04

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.285
 Humidity:65.0%
 Test Distance:26.000m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:230.1V I:0.2570A P:52.46W PF:0.8872 Lamp Flux:4340.96x1 lm		
NAME:	TYPE:3000K	WEIGHT:
SPEC.:10010	DIM.: 270*170*40mm	SERIAL No.:
MFR.: VNILS	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	24.6	26.0	24.8	26.2	26.4	25.7	27.1	25.9	27.3	27.5
3H	24.8	26.0	25.1	26.3	26.5	26.4	27.7	26.7	27.9	28.1
4H	24.7	25.9	25.0	26.1	26.4	26.4	27.6	26.7	27.9	28.1
6H	24.6	25.7	24.9	26.0	26.2	26.3	27.4	26.6	27.7	28.0
8H	24.5	25.6	24.9	25.9	26.2	26.3	27.4	26.6	27.6	27.9
12H	24.5	25.5	24.8	25.8	26.1	26.2	27.3	26.6	27.5	27.8
4H 2H	25.0	26.2	25.3	26.5	26.7	25.9	27.2	26.3	27.4	27.7
3H	25.2	26.3	25.6	26.6	26.9	26.7	27.8	27.1	28.1	28.4
4H	25.2	26.1	25.5	26.4	26.7	26.8	27.7	27.1	28.0	28.4
6H	25.1	25.9	25.5	26.2	26.6	26.7	27.5	27.1	27.9	28.2
8H	25.0	25.8	25.4	26.2	26.5	26.7	27.4	27.1	27.8	28.2
12H	25.0	25.7	25.4	26.1	26.5	26.6	27.3	27.0	27.7	28.1
8H 4H	25.1	25.9	25.5	26.2	26.6	26.7	27.4	27.1	27.8	28.2
6H	25.0	25.6	25.5	26.0	26.5	26.6	27.2	27.0	27.6	28.1
8H	25.0	25.5	25.4	26.0	26.4	26.6	27.1	27.0	27.5	28.0
12H	24.9	25.4	25.4	25.9	26.3	26.5	27.0	27.0	27.4	27.9
12H 4H	25.1	25.8	25.5	26.1	26.5	26.6	27.3	27.1	27.7	28.1
6H	25.0	25.5	25.4	26.0	26.4	26.6	27.1	27.0	27.5	28.0
8H	24.9	25.4	25.4	25.9	26.3	26.5	27.0	27.0	27.4	27.9
Variations with the observer position at spacings:										
S = 1.0H	+ 0.4 / - 0.7					+ 0.4 / - 0.5				
1.5H	+ 0.8 / - 1.0					+ 0.4 / - 0.5				
2.0H	+ 1.0 / - 1.5					+ 0.7 / - 0.8				

CIE Pub.117 Corrected 4341 lm Total Lamp Luminous Flux.(8log(F/F0) = 5.1)

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Lauhin
 Test Date:2019-06-04

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.285
 Humidity:65.0%
 Test Distance:26.000m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:230.1V I:0.2570A P:52.46W PF:0.8872 Lamp Flux:4340.96x1 lm		
NAME:	TYPE:3000K	WEIGHT:
SPEC.:10010	DIM.: 270*170*40mm	SERIAL No.:
MFR.: VNILS	SUR.:	PROTECTION ANGLE:

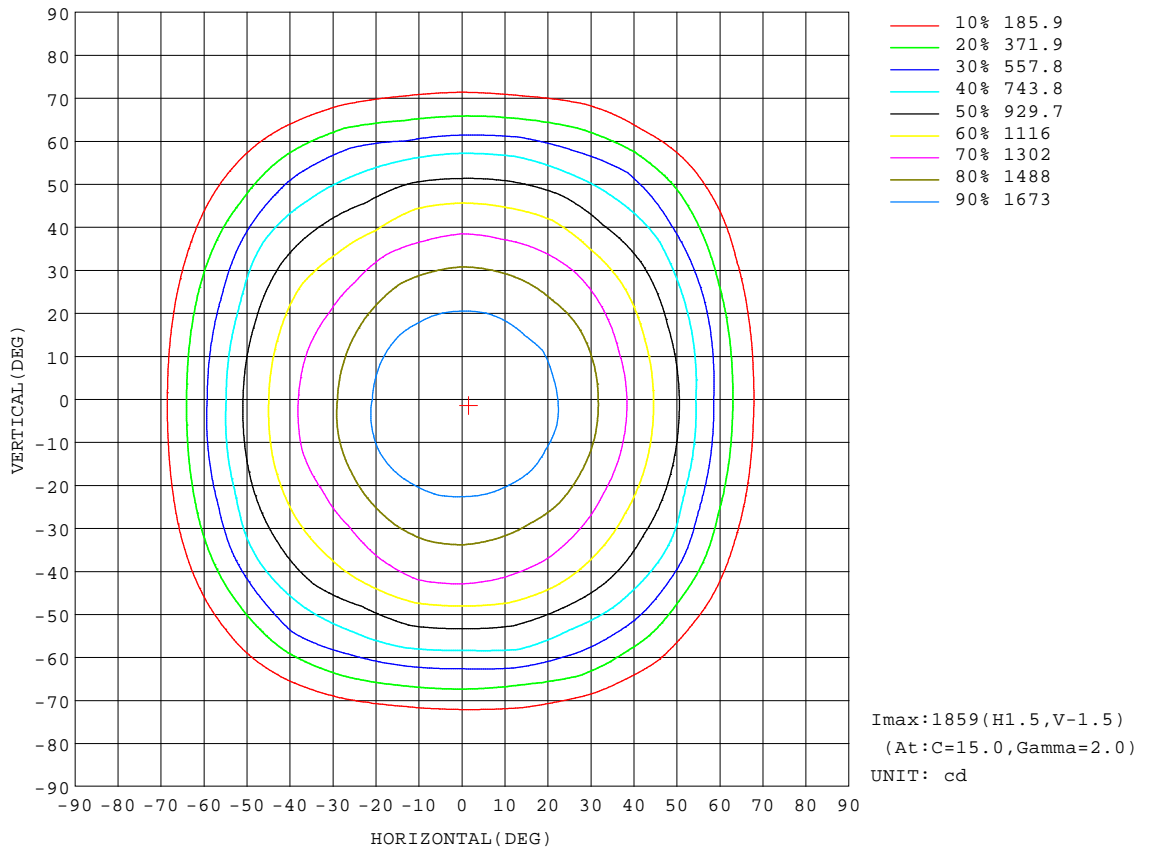
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	62	51	44	61	50	44	60	50	44	38
0.80	72	62	55	71	61	55	70	60	54	48
1.00	81	71	65	80	71	64	78	72	64	57
1.25	88	79	73	87	78	72	84	77	71	65
1.50	93	84	78	91	83	78	88	82	77	70
2.00	99	92	87	97	91	86	94	89	84	77
2.50	103	96	91	101	95	90	97	92	88	81
3.00	105	100	95	103	98	94	100	95	92	84
4.00	109	104	100	107	102	99	103	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				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Lauhin
 Test Date:2019-06-04

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.285
 Humidity:65.0%
 Test Distance:26.000m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:230.1V I:0.2570A P:52.46W PF:0.8872 Lamp Flux:4340.96x1 lm		
NAME:	TYPE:3000K	WEIGHT:
SPEC.:10010	DIM.: 270*170*40mm	SERIAL No.:
MFR.: VNILS	SUR.:	PROTECTION ANGLE:



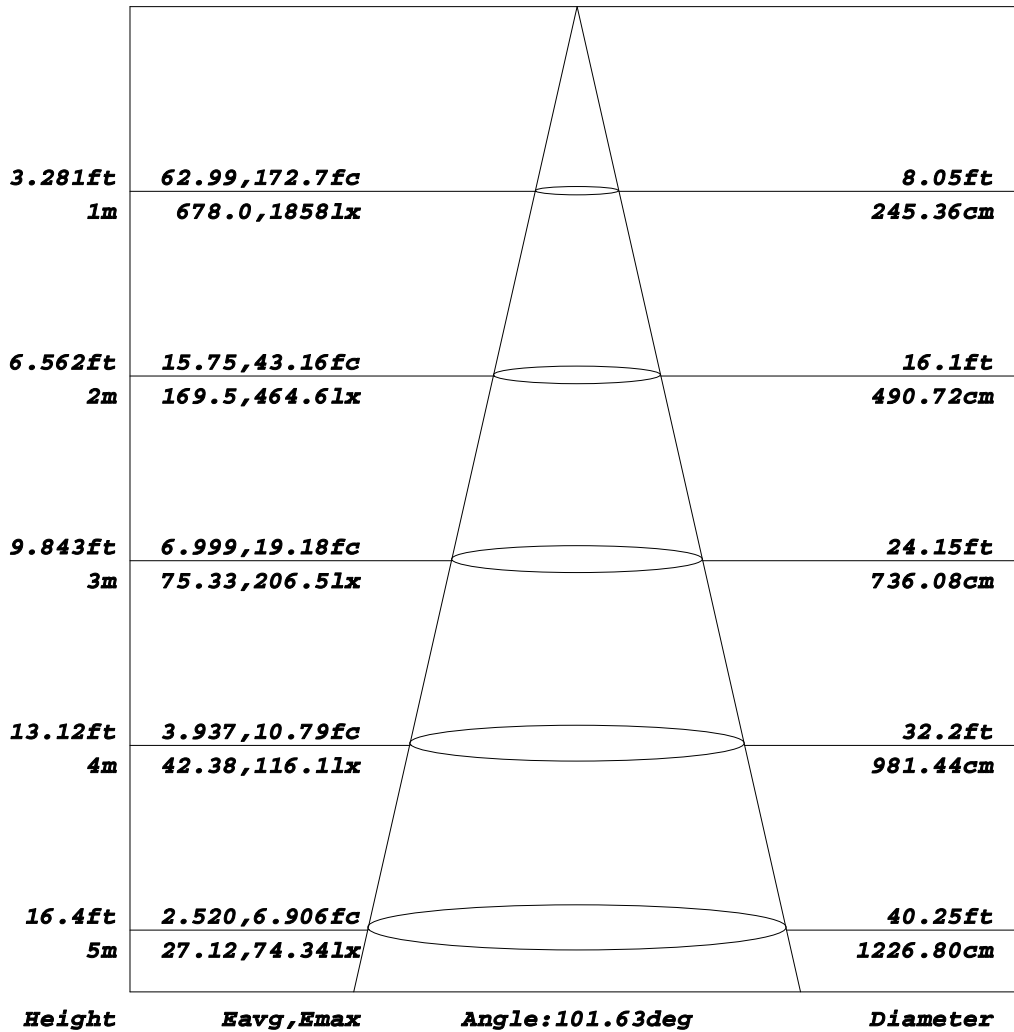
C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Lauhin
 Test Date: 2019-06-04

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.0.285
 Humidity: 65.0%
 Test Distance: 26.000m [K=1.0000]
 Remarks:

AAI Figure

Test:U:230.1V I:0.2570A P:52.46W PF:0.8872 Lamp Flux:4340.96x1 lm		
NAME:	TYPE:3000K	WEIGHT:
SPEC.:10010	DIM.: 270*170*40mm	SERIAL No.:
MFR.: VNILS	SUR.:	PROTECTION ANGLE:

Flux out:3248 lm



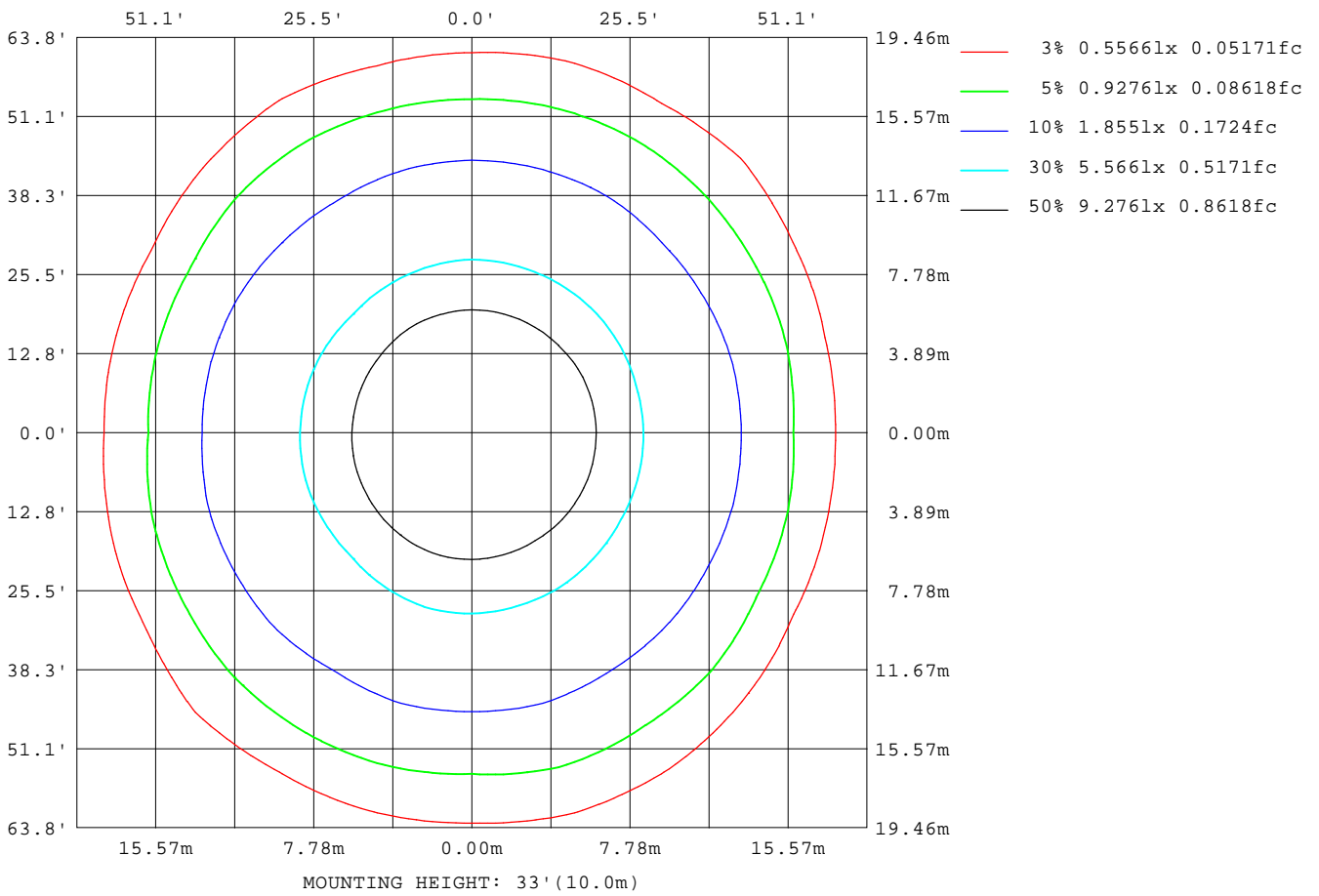
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Lauhin
 Test Date: 2019-06-04

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.0.285
 Humidity: 65.0%
 Test Distance: 26.000m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

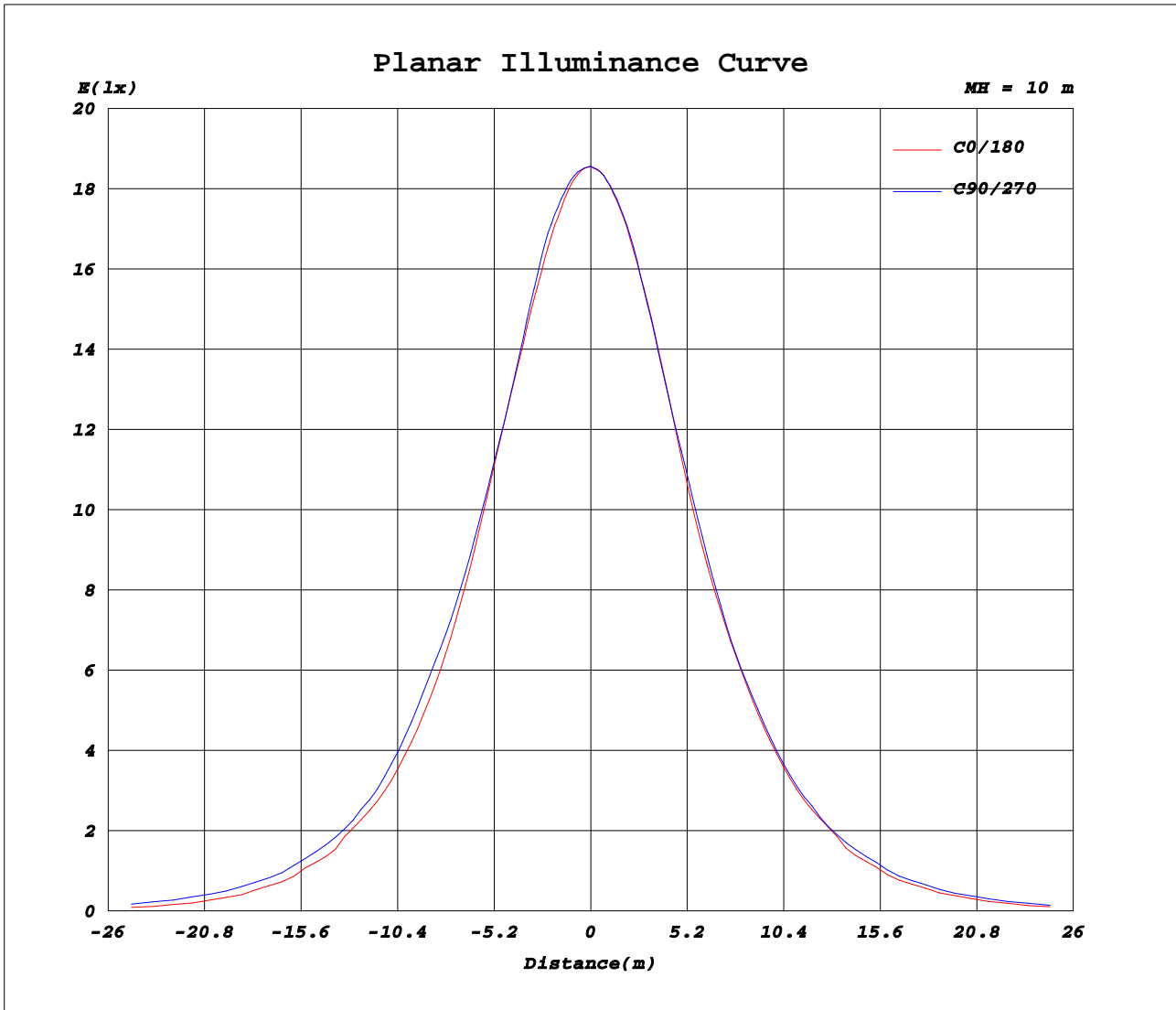
Test:U:230.1V I:0.2570A P:52.46W PF:0.8872 Lamp Flux:4340.96x1 lm		
NAME:	TYPE:3000K	WEIGHT:
SPEC.:10010	DIM.: 270*170*40mm	SERIAL No.:
MFR.: VNILS	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Lauhin
 Test Date: 2019-06-04

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.0.285
 Humidity: 65.0%
 Test Distance: 26.000m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Lauhin
 Test Date: 2019-06-04

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.0.285
 Humidity: 65.0%
 Test Distance: 26.000m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:230.1V I:0.2570A P:52.46W PF:0.8872 Lamp Flux:4340.96x1 lm		
NAME:	TYPE:3000K	WEIGHT:
SPEC.:10010	DIM.: 270*170*40mm	SERIAL No.:
MFR.: VNILS	SUR.:	PROTECTION ANGLE:

Table--1

UNIT: cd

C (DEG) \ γ (DEG)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270
0	1855	1855	1855	1857	1856	1855	1856	1856	1855	1855	1857	1857	1855	1855	1855	1857	1856	1855	1856
5	1845	1851	1848	1855	1855	1857	1855	1857	1854	1852	1852	1849	1842	1842	1842	1846	1842	1840	1841
10	1811	1817	1818	1829	1833	1839	1838	1842	1833	1822	1822	1819	1810	1808	1804	1804	1809	1811	1815
15	1764	1771	1770	1784	1795	1802	1804	1805	1798	1787	1778	1775	1760	1757	1752	1754	1758	1756	1758
20	1704	1712	1712	1722	1721	1729	1721	1730	1723	1721	1719	1712	1688	1687	1684	1685	1679	1682	1682
25	1635	1636	1635	1637	1631	1631	1636	1640	1627	1632	1623	1607	1585	1581	1585	1588	1586	1582	1597
30	1532	1537	1540	1542	1535	1551	1558	1561	1541	1522	1499	1483	1464	1455	1456	1469	1491	1494	1503
35	1398	1407	1411	1434	1441	1451	1464	1464	1441	1403	1369	1375	1364	1350	1329	1333	1367	1374	1386
40	1253	1262	1269	1301	1337	1352	1381	1368	1326	1269	1264	1272	1256	1243	1225	1200	1223	1247	1271
45	1103	1112	1121	1152	1197	1228	1234	1235	1197	1154	1150	1135	1113	1106	1108	1077	1064	1123	1133
50	945	951	961	1000	1030	1050	1046	1049	1017	1025	1006	976	954	945	956	933	921	969	989
55	719	729	815	821	837	884	875	885	836	856	840	778	737	731	792	776	782	799	815
60	511	514	587	643	664	684	669	676	682	662	613	557	539	531	566	616	627	585	610
65	275	290	320	426	464	468	476	474	466	460	396	365	322	320	336	401	432	396	409
70	122	124	146	205	250	266	265	269	273	234	189	146	135	137	163	197	222	223	221
75	8.48	8.85	16.8	53.5	79.1	94.1	94.2	93.3	88.0	69.8	28.8	9.04	11.0	10.5	12.2	47.0	74.0	76.8	79.8
80	2.48	2.15	2.48	1.76	3.57	2.80	2.46	2.87	2.48	1.75	2.09	2.02	3.31	3.52	3.12	3.02	3.46	3.80	3.86
85	0.72	0.07	0.59	0.00	0.13	0.00	0.26	0.00	0.26	0.00	0.39	0.00	0.91	1.37	0.91	1.18	0.65	1.38	0.98
90	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	0.00

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Lauhin
 Test Date: 2019-06-04

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.0.285
 Humidity: 65.0%
 Test Distance: 26.000m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:230.1V I:0.2570A P:52.46W PF:0.8872 Lamp Flux:4340.96x1 lm		
NAME:	TYPE:3000K	WEIGHT:
SPEC.:10010	DIM.: 270*170*40mm	SERIAL No.:
MFR.: VNILS	SUR.:	PROTECTION ANGLE:

Table--2

UNIT: cd

C(DEG) γ (DEG)	285	300	315	330	345														
0	1856	1855	1855	1857	1857														
5	1845	1844	1846	1848	1849														
10	1816	1815	1810	1814	1818														
15	1766	1767	1760	1763	1766														
20	1687	1687	1686	1699	1701														
25	1599	1596	1602	1619	1628														
30	1502	1504	1502	1521	1528														
35	1386	1388	1399	1394	1388														
40	1262	1261	1263	1254	1244														
45	1132	1135	1103	1107	1095														
50	984	981	938	950	933														
55	816	796	778	778	750														
60	614	626	606	554	512														
65	427	409	407	364	322														
70	224	234	185	171	127														
75	75.0	70.5	54.2	26.1	10.7														
80	3.87	3.13	3.14	3.13	3.46														
85	1.38	0.85	0.98	0.59	1.24														
90	0.00	0.00	0.00	0.00	0.00														

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Lauhin
Test Date:2019-06-04

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.285
Humidity:65.0%
Test Distance:26.000m [K=1.0000]
Remarks: