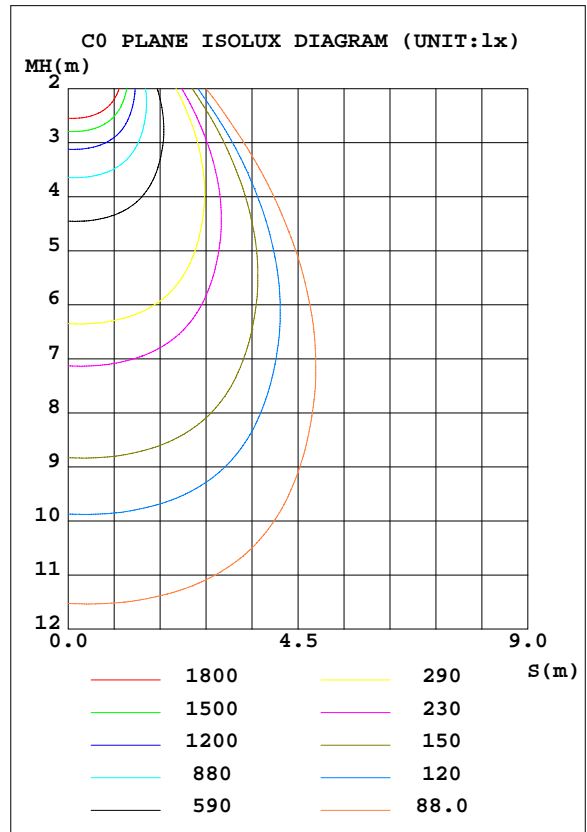
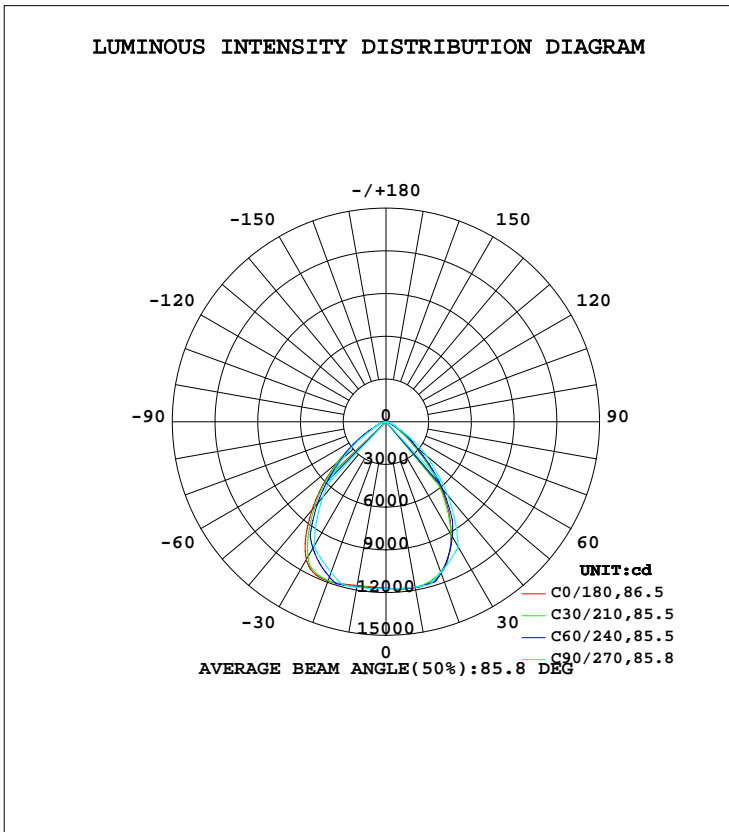


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:219.5V I:0.6934A P:150.9W PF:0.9913 Lamp Flux:21732.9x1 lm		
NAME: NSH-NA150W-90D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: NEWSTAR	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 144.05 lm/W			
MODEL		I _{max} (cd)	11921	S/MH(C0/180)	1.29
NOMINAL POWER(W)	150	LOR(%)	100.0	S/MH(C90/270)	1.22
RATED VOLTAGE(V)	220.0	TOTAL FLUX(lm)	21733	η UP, DN(C0-180)	0.0,49.4
NOMINAL FLUX(lm)	21732.9	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0,50.6
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	220.0	η down(%)	100.0	CIBSE SHR MAX	1.25



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.351
 Humidity:65.2%
 Test Distance:6.710m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

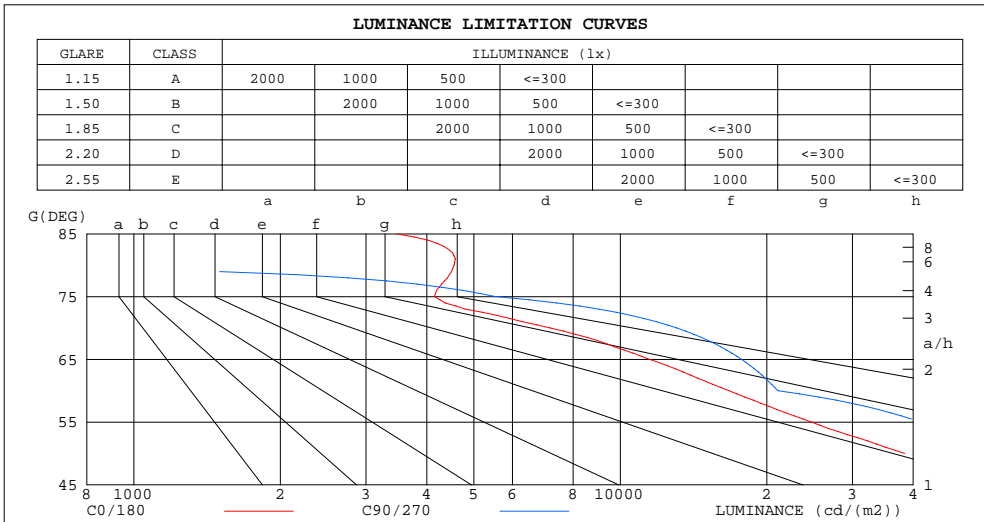
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	lum, lamp
5	1179	1177	1174	1169	1164	1170	1174	1177	0- 5	280.1	280.1	1.29,1.29
10	1184	1180	1179	1174	1168	1176	1180	1180	5- 10	841.1	1121	5.16,5.16
15	1175	1171	1184	1181	1179	1185	1185	1170	10- 15	1398	2519	11.6,11.6
20	1132	1144	1127	1186	1190	1192	1127	1141	15- 20	1921	4440	20.4,20.4
25	1042	1041	1071	1133	1180	1135	1069	1044	20- 25	2345	6785	31.2,31.2
30	914.4	909.1	1015	1044	1118	1043	1011	918.7	25- 30	2635	9421	43.3,43.3
35	766.3	764.3	844.1	923.9	980.5	923.3	849.3	782.7	30- 35	2729	12150	55.9,55.9
40	592.0	607.6	673.4	774.6	806.6	776.9	687.7	635.2	35- 40	2569	14719	67.7,67.7
45	409.2	428.8	502.7	592.2	627.4	596.1	526.0	455.9	40- 45	2214	16933	77.9,77.9
50	246.9	271.2	370.2	417.5	447.5	421.6	390.7	293.9	45- 50	1740	18672	85.9,85.9
55	141.7	144.2	237.8	259.0	276.1	260.7	255.3	161.4	50- 55	1247	19919	91.7,91.7
60	83.58	92.98	105.4	167.7	154.7	170.9	120.0	107.2	55- 60	800.6	20720	95.3,95.3
65	48.46	52.38	75.02	92.95	87.13	99.88	86.49	64.95	60- 65	467.9	21188	97.5,97.5
70	24.52	27.74	44.67	47.57	50.52	55.23	53.01	36.87	65- 70	288.8	21476	98.8,98.8
75	10.73	16.93	14.32	27.53	26.66	31.47	19.52	21.13	70- 75	163.2	21640	99.6,99.6
80	7.904	7.265	0	9.440	11.16	9.927	0	7.331	75- 80	70.27	21710	99.9,99.9
85	3.025	0	0	0	7.848	0	0	0	80- 85	19.64	21730	100,100
90	1.691	0	0	0	3.849	0	0	0	85- 90	3.350	21733	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:×10cd								UNIT:lm			

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.351
 Humidity:65.2%
 Test Distance:6.710m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:219.5V I:0.6934A P:150.9W PF:0.9913 Lamp Flux:21732.9x1 lm		
NAME: NSH-NA150W-90D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: NEWSTAR	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	3471	0
80	4552	0
75	4145	5534
70	7168	13061
65	11467	17751
60	16716	21074
55	24703	41460
50	38403	57599
45	57876	71089

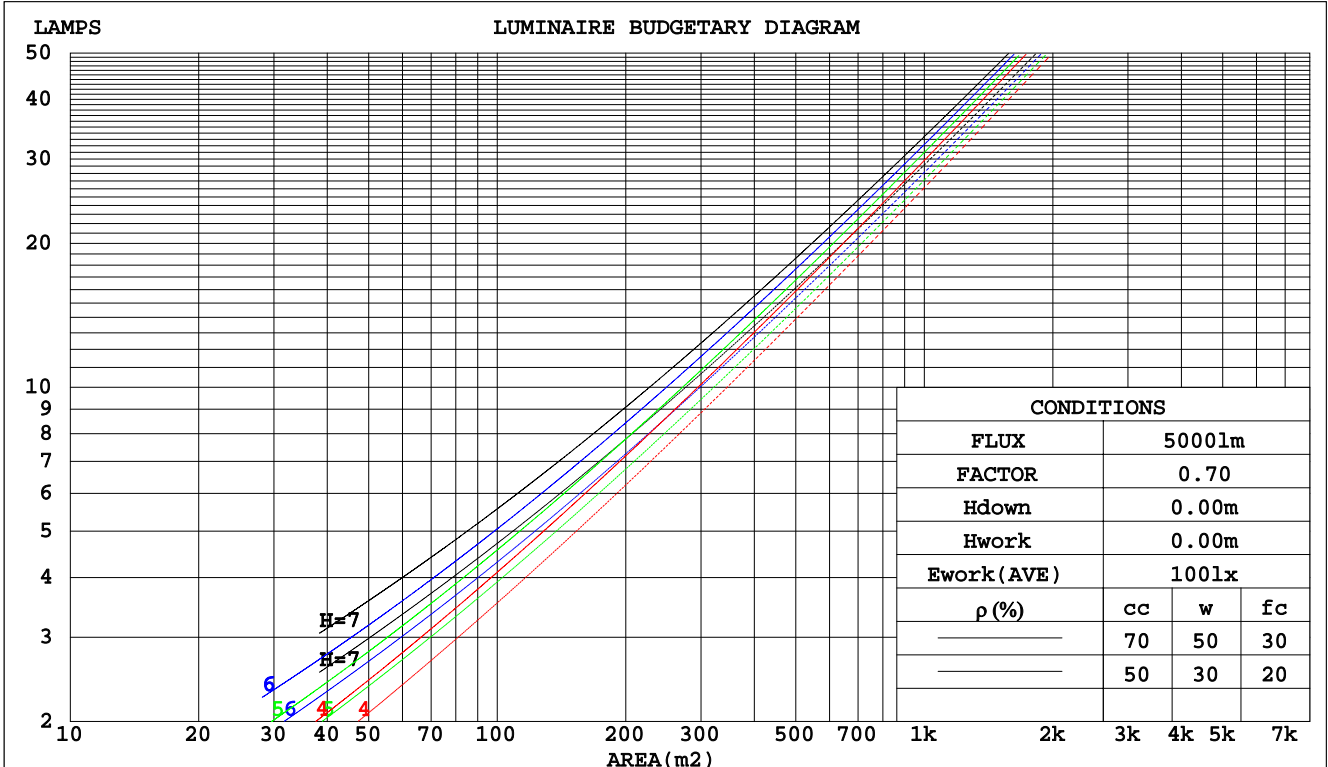
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.351
 Humidity: 65.2%
 Test Distance: 6.710m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:219.5V I:0.6934A P:150.9W PF:0.9913 Lamp Flux:21732.9x1 lm		
NAME: NSH-NA150W-90D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: NEWSTAR	SUR.:	Shielding 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																0
pfc																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	1.08	1.05	1.02	1.06	1.03	1.01	1.02	.99	.98	.98	.96	.95	.95	.93	.92	.90
2.0	.98	.93	.88	.96	.91	.87	.93	.89	.86	.90	.86	.84	.87	.84	.82	.80
3.0	.89	.82	.77	.87	.81	.77	.85	.79	.75	.82	.78	.74	.80	.76	.73	.71
4.0	.81	.74	.68	.79	.73	.68	.77	.71	.67	.75	.70	.66	.73	.69	.65	.63
5.0	.74	.66	.61	.73	.66	.60	.71	.64	.60	.69	.63	.59	.67	.62	.59	.57
6.0	.67	.60	.54	.66	.59	.54	.65	.58	.54	.63	.58	.53	.62	.57	.53	.51
7.0	.62	.54	.49	.61	.54	.49	.60	.53	.49	.58	.53	.48	.57	.52	.48	.46
8.0	.57	.50	.45	.56	.49	.44	.55	.49	.44	.54	.48	.44	.53	.48	.44	.42
9.0	.53	.46	.41	.52	.45	.41	.51	.45	.40	.50	.44	.40	.49	.44	.40	.38
10.0	.49	.42	.37	.49	.42	.37	.48	.41	.37	.47	.41	.37	.46	.41	.37	.35



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.351
 Humidity: 65.2%
 Test Distance: 6.710m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:219.5V I:0.6934A P:150.9W PF:0.9913 Lamp Flux:21732.9x1 lm		
NAME: NSH-NA150W-90D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: NEWSTAR	SUR.:	Shielding 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	.224	.128	.040	.217	.124	.039	.205	.117	.037	.193	.111	.036	.182	.105	.034	
2.0	.219	.120	.037	.213	.117	.036	.202	.112	.035	.192	.108	.034	.183	.103	.033	
3.0	.210	.112	.033	.205	.110	.033	.195	.106	.032	.186	.102	.031	.178	.098	.030	
4.0	.199	.103	.030	.195	.102	.030	.186	.099	.029	.178	.096	.029	.171	.093	.028	
5.0	.189	.096	.028	.185	.095	.028	.177	.092	.027	.170	.090	.027	.164	.088	.026	
6.0	.179	.090	.026	.175	.088	.025	.169	.086	.025	.162	.084	.025	.156	.082	.024	
7.0	.169	.084	.024	.166	.083	.024	.160	.081	.023	.155	.079	.023	.149	.078	.023	
8.0	.161	.078	.022	.158	.078	.022	.152	.076	.022	.147	.075	.022	.143	.073	.021	
9.0	.152	.074	.021	.150	.073	.021	.145	.072	.020	.141	.071	.020	.136	.069	.020	
10.0	.145	.070	.019	.143	.069	.019	.138	.068	.019	.134	.067	.019	.130	.066	.019	

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																
1.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
2.0	.174	.157	.141	.149	.135	.121	.102	.093	.084	.059	.054	.049	.019	.017	.016	
3.0	.163	.132	.107	.139	.114	.092	.095	.079	.064	.055	.046	.038	.018	.015	.012	
4.0	.153	.114	.083	.131	.098	.072	.090	.068	.050	.052	.040	.030	.017	.013	.010	
5.0	.145	.100	.066	.124	.086	.057	.085	.060	.040	.049	.035	.024	.016	.011	.008	
6.0	.137	.089	.053	.118	.077	.046	.081	.054	.033	.047	.032	.019	.015	.010	.006	
7.0	.130	.080	.044	.112	.069	.038	.077	.049	.027	.045	.029	.016	.014	.009	.005	
8.0	.124	.073	.037	.107	.063	.032	.074	.044	.023	.043	.026	.014	.014	.009	.005	
9.0	.119	.067	.032	.102	.058	.028	.071	.041	.020	.041	.024	.012	.013	.008	.004	
10.0	.113	.062	.028	.098	.054	.024	.068	.038	.017	.039	.022	.010	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.351
 Humidity:65.2%
 Test Distance:6.710m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:219.5V I:0.6934A P:150.9W PF:0.9913 Lamp Flux:21732.9x1 lm										
NAME: NSH-NA150W-90D					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.: NEWSTAR					SUR.:			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	22.9	24.1	23.1	24.3	24.5	24.2	25.5	24.5	25.6	25.8
3H	22.8	23.9	23.1	24.2	24.4	24.3	25.4	24.6	25.6	25.9
4H	22.7	23.8	23.0	24.1	24.3	24.2	25.3	24.5	25.6	25.8
6H	22.7	23.7	23.0	23.9	24.2	24.2	25.2	24.5	25.4	25.7
8H	22.6	23.6	23.0	23.9	24.2	24.1	25.1	24.4	25.3	25.6
12H	22.6	23.5	22.9	23.8	24.1	24.1	25.0	24.4	25.3	25.6
4H 2H	22.8	23.9	23.1	24.1	24.4	24.1	25.2	24.4	25.4	25.6
3H	22.8	23.7	23.1	24.0	24.3	24.2	25.1	24.6	25.4	25.7
4H	22.8	23.6	23.1	23.9	24.2	24.2	25.0	24.6	25.3	25.7
6H	22.7	23.5	23.1	23.8	24.1	24.1	24.8	24.5	25.2	25.5
8H	22.7	23.4	23.1	23.7	24.1	24.1	24.7	24.5	25.1	25.5
12H	22.7	23.3	23.1	23.7	24.1	24.0	24.6	24.4	25.0	25.4
8H 4H	22.7	23.4	23.1	23.7	24.1	24.1	24.8	24.5	25.1	25.5
6H	22.7	23.2	23.1	23.6	24.0	24.0	24.6	24.4	25.0	25.4
8H	22.7	23.1	23.1	23.6	24.0	24.0	24.4	24.4	24.9	25.3
12H	22.6	23.1	23.1	23.5	24.0	23.9	24.3	24.4	24.8	25.2
12H 4H	22.6	23.3	23.1	23.6	24.0	24.0	24.7	24.5	25.0	25.4
6H	22.6	23.1	23.1	23.5	24.0	24.0	24.5	24.4	24.9	25.3
8H	22.6	23.0	23.1	23.5	23.9	23.9	24.3	24.4	24.8	25.3
Variations with the observer position at spacings:										
S = 1.0H	+ 1.7 / - 3.3					+ 1.2 / - 1.8				
1.5H	+ 1.9 / - 2.4					+ 1.5 / - 1.9				
2.0H	+ 3.8 / - 4.0					+ 3.5 / - 5.2				

CIE Pub.117 Corrected 21733 lm Total Lamp Luminous Flux. (8log(F/F0) = 10.7)

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.351
 Humidity:65.2%
 Test Distance:6.710m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:219.5V I:0.6934A P:150.9W PF:0.9913 Lamp Flux:21732.9x1 lm		
NAME: NSH-NA150W-90D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: NEWSTAR	SUR.:	Shielding Angle:

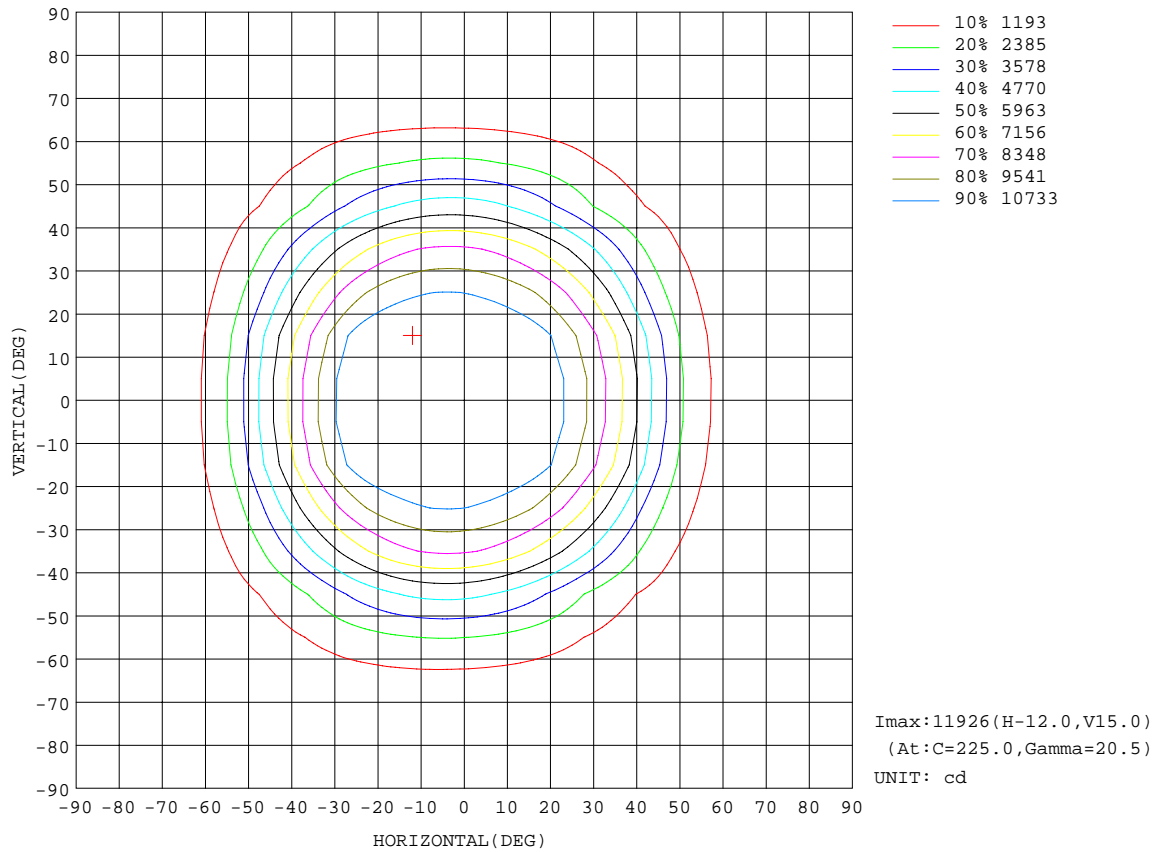
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	71	62	56	70	61	56	69	61	56	51
0.80	81	72	66	80	71	66	78	71	66	60
1.00	88	80	75	87	79	74	85	80	74	68
1.25	94	87	82	93	86	81	91	85	80	75
1.50	98	91	86	97	90	86	94	89	85	79
2.00	103	97	93	102	96	92	99	94	90	84
2.50	106	100	96	104	99	95	101	97	93	86
3.00	108	103	99	106	102	98	102	99	96	89
4.00	111	107	104	109	105	102	105	102	99	92
5.00	112	109	106	110	107	105	106	104	101	93
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:
 Test Date:2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.351
 Humidity:65.2%
 Test Distance:6.710m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:219.5V I:0.6934A P:150.9W PF:0.9913 Lamp Flux:21732.9x1 lm		
NAME: NSH-NA150W-90D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: NEWSTAR	SUR.:	Shielding Angle:

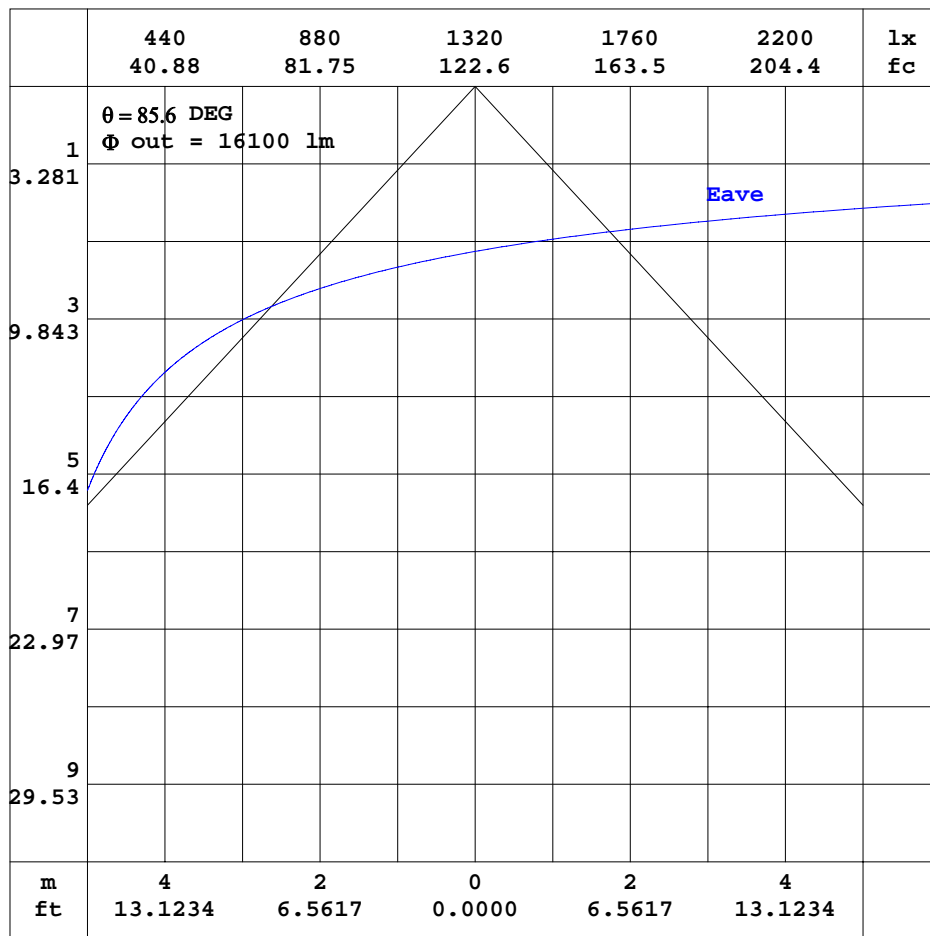


C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.351
 Humidity: 65.2%
 Test Distance: 6.710m [K=1.0000]
 Remarks:

AAI CURVES

Test:U:219.5V I:0.6934A P:150.9W PF:0.9913 Lamp Flux:21732.9x1 lm		
NAME: NSH-NA150W-90D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: NEWSTAR	SUR.:	Shielding Angle:



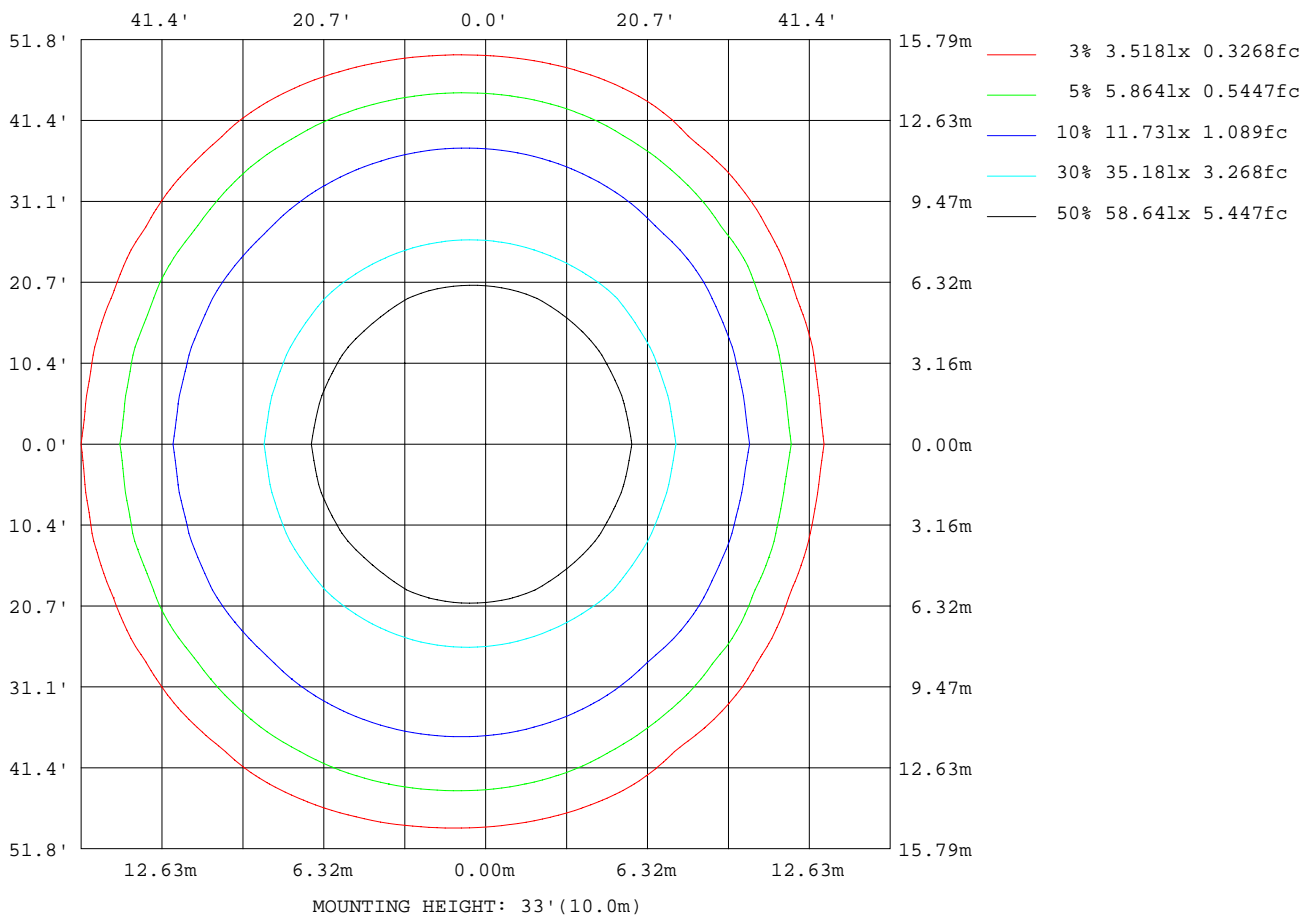
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.351
 Humidity: 65.2%
 Test Distance: 6.710m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:219.5V I:0.6934A P:150.9W PF:0.9913 Lamp Flux:21732.9x1 lm		
NAME: NSH-NA150W-90D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: NEWSTAR	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.351
 Humidity: 65.2%
 Test Distance: 6.710m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:219.5V I:0.6934A P:150.9W PF:0.9913 Lamp Flux:21732.9x1 lm		
NAME: NSH-NA150W-90D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: NEWSTAR	SUR.:	Shielding Angle:

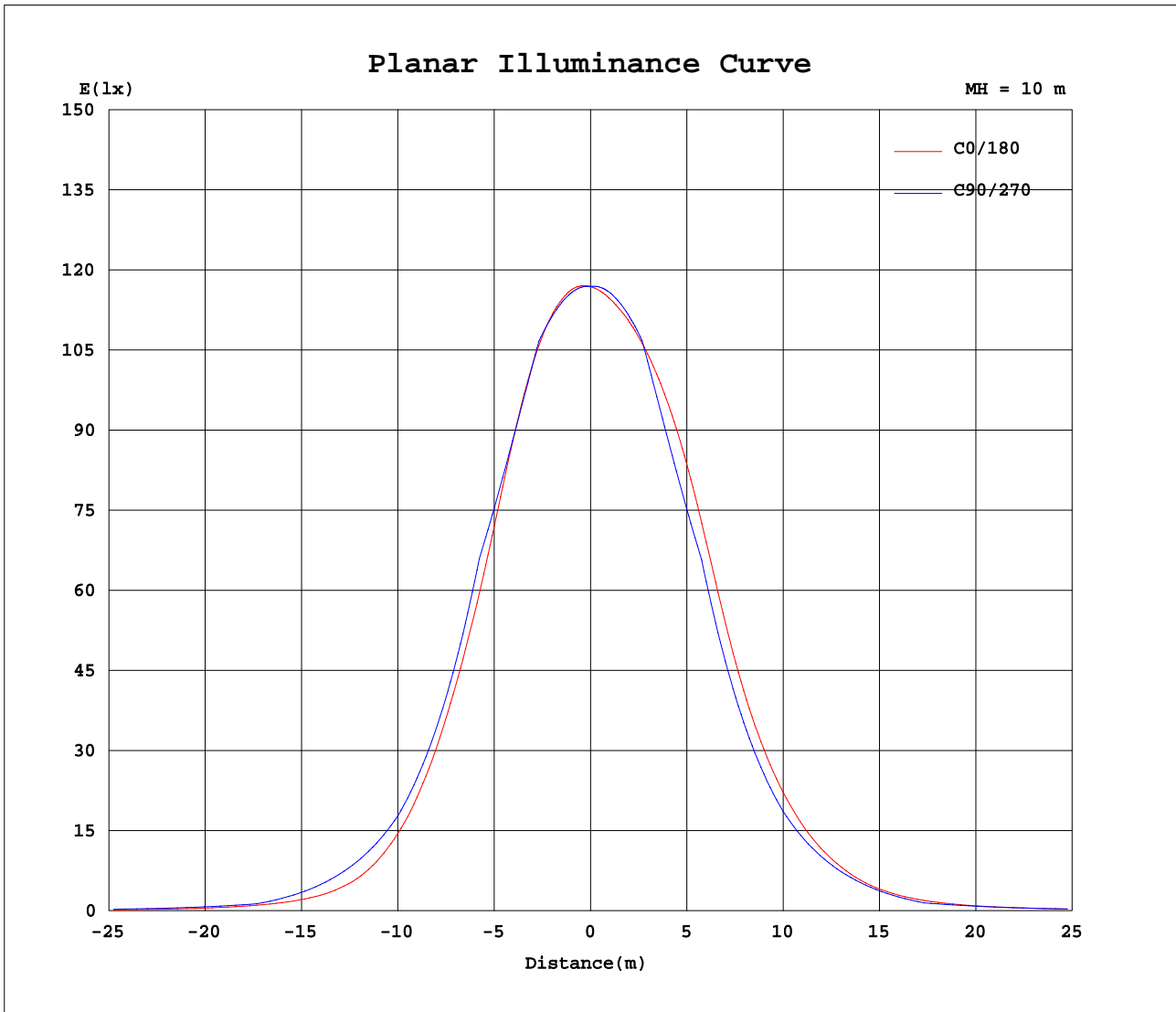
AvgL	cd/m2
L_0~180(65)av	16042
L_0~180(75)av	7223
L_0~180(85)av	6238
L_90~270(65)av	19109
L_90~270(75)av	6538
L_90~270(85)av	0
L_45(65)av	18348
L_45(75)av	9376
L_45(85)av	0

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.351
 Humidity:65.2%
 Test Distance:6.710m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.351
 Humidity: 65.2%
 Test Distance: 6.710m [K=1.0000]
 Remarks: