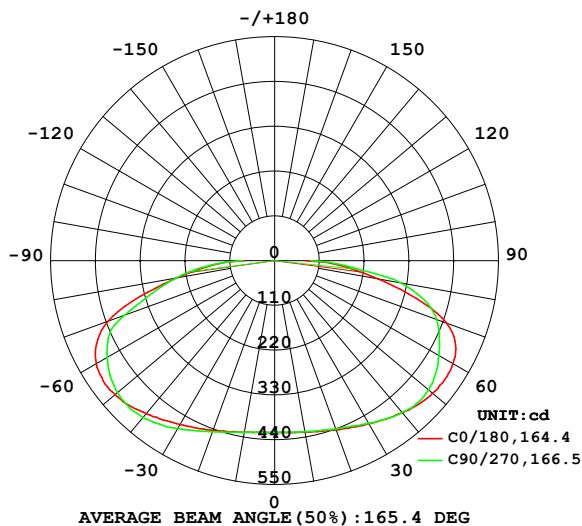


LUMINAIRE PHOTOMETRIC TEST REPORT

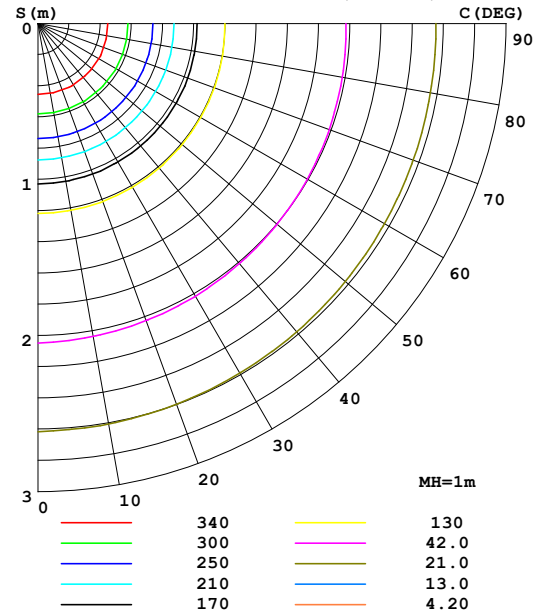
Test:U:240.4V I:0.0808A P:18.4W PF:0.9470 Freq:49.99Hz		
UTHDi:0.17% ITHDi:17.56% KDisp:0.9606 Lamp Flux:2532.78x1 lm		
NAME: HV5882T-18W-5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Havit Lighting	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 137.73 lm/W			
MODEL		Imax (cd)	515.0	S/MH(C0/180)	1.74
NOMINAL POWER(W)	18	LOR(%)	100.0	S/MH(C90/270)	1.78
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	2532.8	η UP,DN(C0-180)	0.0,50.5
NOMINAL FLUX(lm)	2532.78	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,49.5
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	2.00
TEST VOLTAGE(V)	240.33	η down (%)	100.0	CIBSE SHR MAX	2.00

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



PLANAR ISOLUX DIAGRAM(UNIT:lx)



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-09-12

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [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	428.2	427.6	426.2	427.7	428.0	428.8	428.1	429.4	0- 10	40.58	40.58	1.6,1.6
20	442.7	441.3	439.5	441.5	443.5	446.3	446.8	445.0	10- 20	123.5	164.1	6.48,6.48
30	462.9	463.1	461.8	461.1	464.7	470.5	475.8	469.3	20- 30	210.6	374.7	14.8,14.8
40	487.3	488.6	487.1	484.9	490.7	496.4	502.6	496.4	30- 40	301.5	676.1	26.7,26.7
50	506.7	502.0	493.9	501.1	511.8	509.3	503.8	511.8	40- 50	387.6	1064	42,42
60	506.1	485.5	465.7	495.3	505.7	495.3	474.6	495.9	50- 60	448.9	1513	59.7,59.7
70	449.3	433.1	423.6	451.6	435.6	402.2	392.2	410.0	60- 70	462.3	1975	78,78
80	256.5	282.3	313.9	288.1	243.7	244.2	245.3	243.1	70- 80	368.5	2343	92.5,92.5
90	74.80	80.44	88.18	80.55	74.44	67.76	78.05	75.00	80- 90	189.4	2533	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		

Conical surface Flux(90deg): 860.14 lm

%lum = 34.0%

%lamp = 34.0%

Conical surface Flux(130deg): 1746.5 lm

%lum = 69.0%

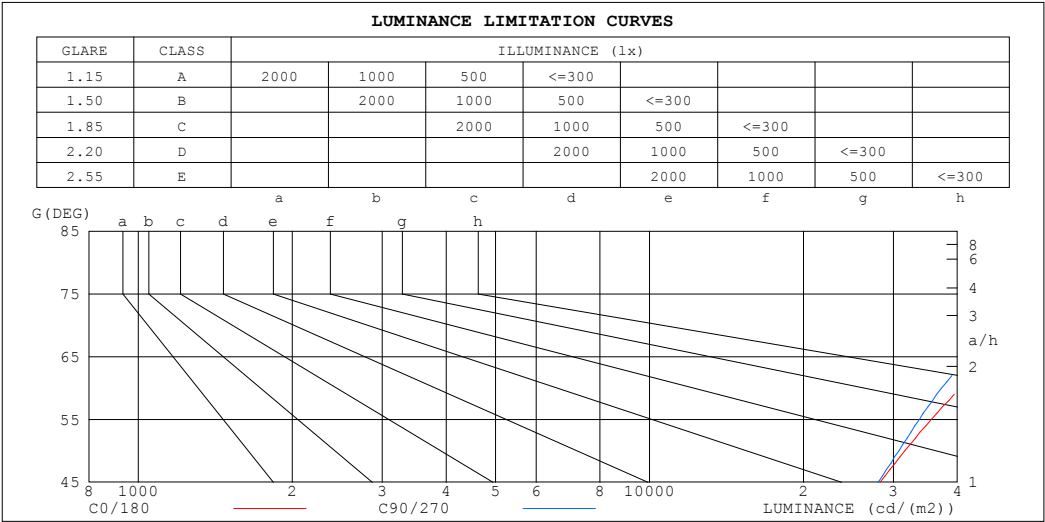
%lamp = 69.0%

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-09-12

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:240.4V I:0.0808A P:18.4W PF:0.9470 Freq:49.99Hz		
UTHDi:0.17% ITHDi:17.56% KDisp:0.9606 Lamp Flux:2532.78x1 lm		
NAME: HV5882T-18W-5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Havit Lighting	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	78340	88228
80	59140	72317
75	55855	59126
70	52595	49549
65	46473	42237
60	40523	37264
55	35583	33714
50	31558	30740
45	28250	27980

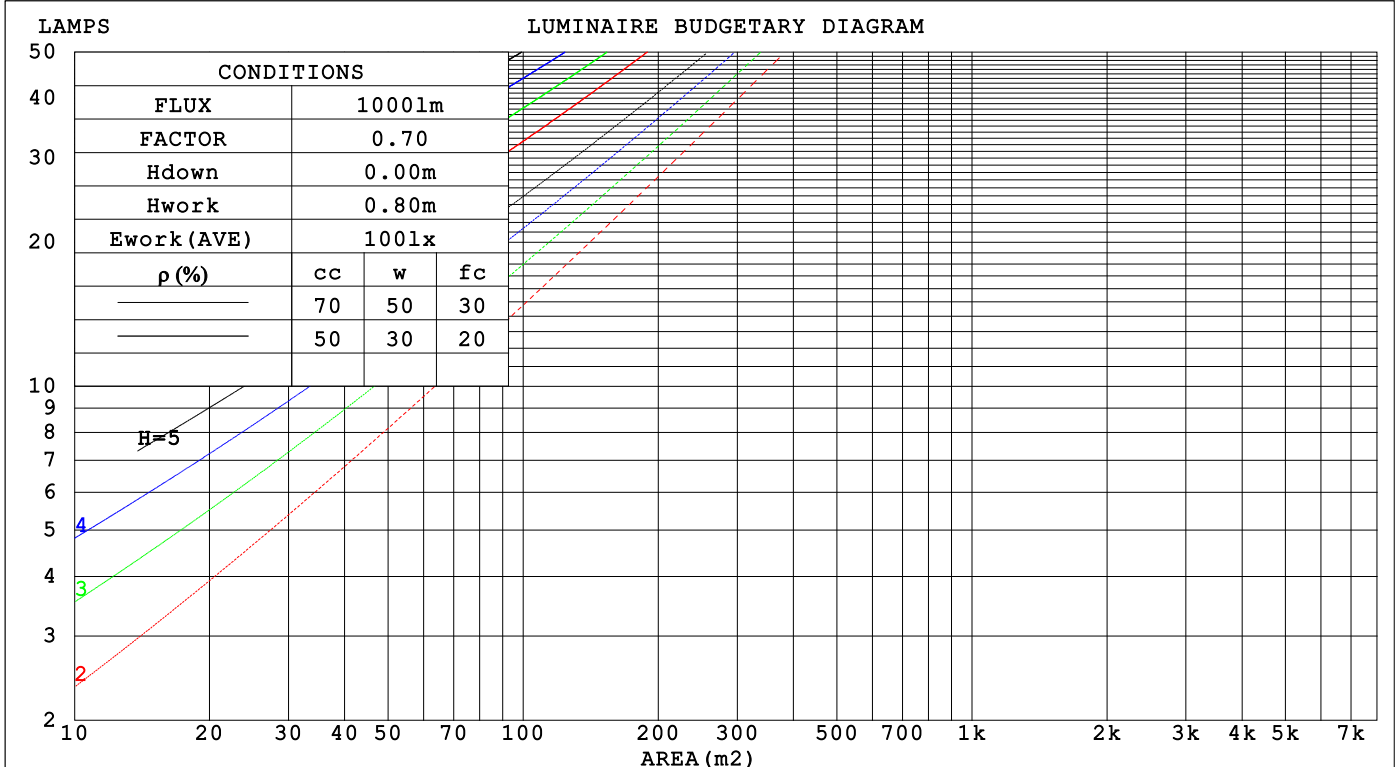
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-09-12

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:240.4V I:0.0808A P:18.4W PF:0.9470 Freq:49.99Hz			Lamp Flux:2532.78x1 lm		
UTHDi:0.17% ITHDi:17.56% KDisp:0.9606					
NAME: HV5882T-18W-5000K		TYPE:		WEIGHT:	
SPEC.:		DIM.:		SERIAL No.:	
MFR.: Havit Lighting		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															
	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	1.00
1.0	.98	.92	.86	.95	.90	.85	.91	.86	.82	.87	.83	.80	.83	.80	.77	.75
2.0	.82	.73	.65	.80	.72	.65	.76	.69	.63	.72	.67	.61	.69	.64	.60	.57
3.0	.70	.59	.51	.68	.58	.51	.65	.56	.50	.62	.55	.49	.59	.53	.48	.45
4.0	.60	.50	.41	.59	.49	.41	.56	.47	.40	.53	.46	.40	.51	.45	.39	.37
5.0	.53	.42	.34	.51	.42	.34	.49	.40	.34	.47	.39	.33	.45	.38	.33	.30
6.0	.47	.36	.29	.46	.36	.29	.44	.35	.28	.42	.34	.28	.40	.33	.28	.25
7.0	.42	.32	.25	.41	.31	.25	.39	.31	.25	.38	.30	.24	.36	.29	.24	.22
8.0	.38	.28	.22	.37	.28	.22	.36	.27	.21	.34	.27	.21	.33	.26	.21	.19
9.0	.34	.25	.19	.34	.25	.19	.33	.24	.19	.31	.24	.19	.30	.24	.19	.17
10.0	.32	.23	.17	.31	.23	.17	.30	.22	.17	.29	.22	.17	.28	.21	.17	.15



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-09-12

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:240.4V I:0.0808A P:18.4W PF:0.9470 Freq:49.99Hz		
UTHDi:0.17% ITHDi:17.56% KDisp:0.9606 Lamp Flux:2532.78x1 lm		
NAME: HV5882T-18W-5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Havit Lighting	SUR.:	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0														
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0														
pfc	20%			20%			20%			20%			20%			0														
RCR	RCR:Room Cavity Ratio															Wall Exitance Coefficients(WEC)														
0.0																														
1.0	.428	.243	.077	.421	.240	.076	.407	.233	.075	.394	.227	.073	.382	.222	.071															
2.0	.375	.206	.063	.369	.203	.063	.356	.198	.062	.345	.193	.061	.334	.189	.060															
3.0	.333	.177	.053	.327	.175	.053	.316	.171	.052	.306	.167	.051	.296	.164	.051															
4.0	.298	.155	.046	.293	.153	.045	.283	.150	.045	.274	.147	.044	.265	.144	.044															
5.0	.269	.137	.040	.265	.136	.040	.256	.133	.039	.248	.131	.039	.240	.128	.039															
6.0	.245	.123	.035	.241	.122	.035	.233	.119	.035	.226	.117	.035	.219	.115	.034															
7.0	.225	.111	.031	.221	.110	.031	.214	.108	.031	.208	.106	.031	.201	.105	.031															
8.0	.207	.101	.028	.204	.100	.028	.198	.099	.028	.192	.097	.028	.187	.096	.028															
9.0	.192	.093	.026	.189	.092	.026	.184	.091	.026	.179	.090	.026	.174	.088	.025															
10.0	.179	.086	.024	.177	.085	.024	.172	.084	.024	.167	.083	.024	.162	.082	.023															

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	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	.188	.155	.125	.161	.133	.108	.110	.092	.074	.063	.053	.043	.020	.017	.014	
2.0	.183	.132	.088	.157	.113	.076	.108	.078	.053	.062	.046	.031	.020	.015	.010	
3.0	.177	.115	.065	.151	.099	.057	.104	.069	.040	.060	.040	.023	.019	.013	.008	
4.0	.169	.102	.051	.145	.088	.044	.100	.061	.031	.058	.036	.018	.019	.012	.006	
5.0	.161	.092	.041	.138	.080	.036	.095	.056	.025	.055	.033	.015	.018	.011	.005	
6.0	.153	.084	.035	.131	.073	.030	.091	.051	.021	.053	.030	.013	.017	.010	.004	
7.0	.145	.077	.030	.125	.067	.026	.086	.047	.018	.050	.028	.011	.016	.009	.004	
8.0	.138	.072	.026	.119	.062	.023	.082	.044	.016	.048	.026	.010	.015	.008	.003	
9.0	.131	.067	.023	.113	.058	.020	.078	.041	.014	.046	.024	.009	.015	.008	.003	
10.0	.125	.062	.021	.107	.054	.018	.074	.038	.013	.043	.022	.008	.014	.007	.003	

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-09-12

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:240.4V I:0.0808A P:18.4W PF:0.9470 Freq:49.99Hz										
UTHDi:0.17% ITHDi:17.56% KDisp:0.9606					Lamp Flux:2532.78x1 lm					
NAME: HV5882T-18W-5000K					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.: Havit Lighting					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	25.9	27.7	26.2	27.9	28.1	25.6	27.4	25.9	27.6	27.8
3H	28.8	30.4	29.1	30.7	30.9	28.4	30.1	28.7	30.3	30.6
4H	30.0	31.6	30.4	31.9	32.2	29.9	31.5	30.2	31.8	32.0
6H	31.1	32.6	31.4	32.9	33.2	31.3	32.8	31.6	33.1	33.4
8H	31.5	33.0	31.9	33.3	33.6	31.9	33.3	32.2	33.6	33.9
12H	31.9	33.3	32.3	33.7	34.0	32.3	33.8	32.7	34.1	34.4
4H 2H	26.8	28.4	27.2	28.7	29.0	26.6	28.2	27.0	28.5	28.8
3H	29.9	31.3	30.2	31.6	31.9	29.6	31.1	30.0	31.4	31.7
4H	31.3	32.6	31.7	32.9	33.3	31.2	32.5	31.6	32.9	33.2
6H	32.5	33.7	32.9	34.0	34.4	32.7	33.9	33.1	34.3	34.7
8H	33.0	34.1	33.4	34.5	34.9	33.4	34.5	33.8	34.9	35.3
12H	33.5	34.5	33.9	34.9	35.3	33.9	35.0	34.4	35.4	35.8
8H 4H	31.9	33.0	32.3	33.4	33.8	31.8	32.9	32.2	33.3	33.7
6H	33.3	34.2	33.7	34.6	35.1	33.5	34.5	34.0	34.9	35.3
8H	33.9	34.8	34.4	35.2	35.7	34.3	35.2	34.8	35.6	36.1
12H	34.6	35.3	35.1	35.8	36.3	35.0	35.8	35.5	36.2	36.7
12H 4H	32.0	33.0	32.4	33.4	33.8	31.9	32.9	32.3	33.3	33.7
6H	33.5	34.3	33.9	34.8	35.2	33.7	34.6	34.2	35.0	35.4
8H	34.2	35.0	34.7	35.4	35.9	34.6	35.3	35.0	35.8	36.2
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.1				
1.5H	+ 0.2 / - 0.2					+ 0.2 / - 0.2				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.4				

CIE Pub.117, 2533 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 3.2)
Area: 0.025 m2

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-09-12

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:240.4V I:0.0808A P:18.4W PF:0.9470 Freq:49.99Hz		
UTHDi:0.17% ITHDi:17.56% KDisp:0.9606 Lamp Flux:2532.78x1 lm		
NAME: HV5882T-18W-5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Havit Lighting	SUR.:	Shielding Angle:

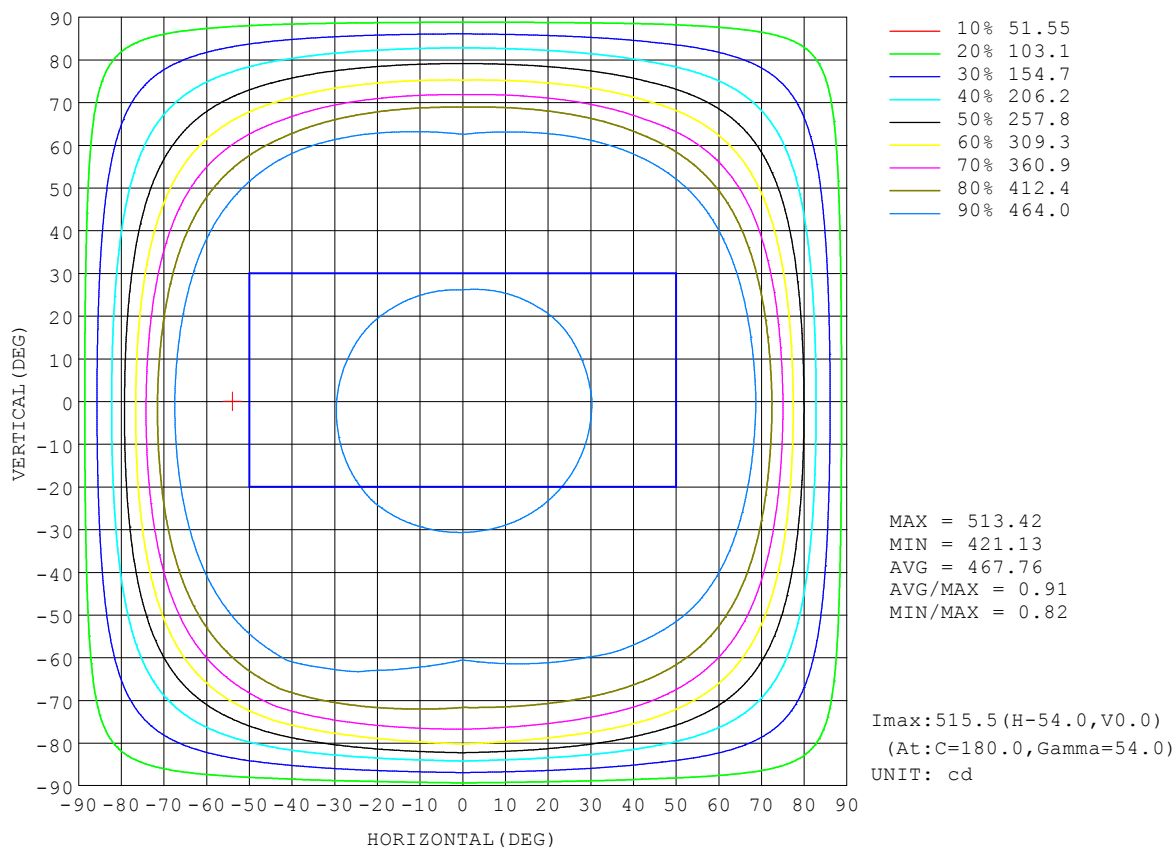
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	48	35	26	47	34	26	46	34	26	19
0.80	57	43	35	56	43	35	54	42	34	26
1.00	65	52	43	64	51	43	62	53	42	33
1.25	73	60	51	71	59	50	68	57	49	41
1.50	78	66	57	77	65	56	73	63	55	46
2.00	86	75	67	84	74	66	80	71	64	55
2.50	91	81	73	89	80	72	85	77	70	60
3.00	96	86	79	93	85	78	89	82	76	66
4.00	101	93	86	98	91	85	93	88	82	72
5.00	104	97	92	101	95	90	96	91	87	77
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:DAMIN
Test Date:2023-09-12

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 γ Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:240.4V I:0.0808A P:18.4W PF:0.9470 Freq:49.99Hz		
UTHDi:0.17% ITHDi:17.56% KDisp:0.9606 Lamp Flux:2532.78x1 lm		
NAME: HV5882T-18W-5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Havit Lighting	SUR.:	Shielding Angle:

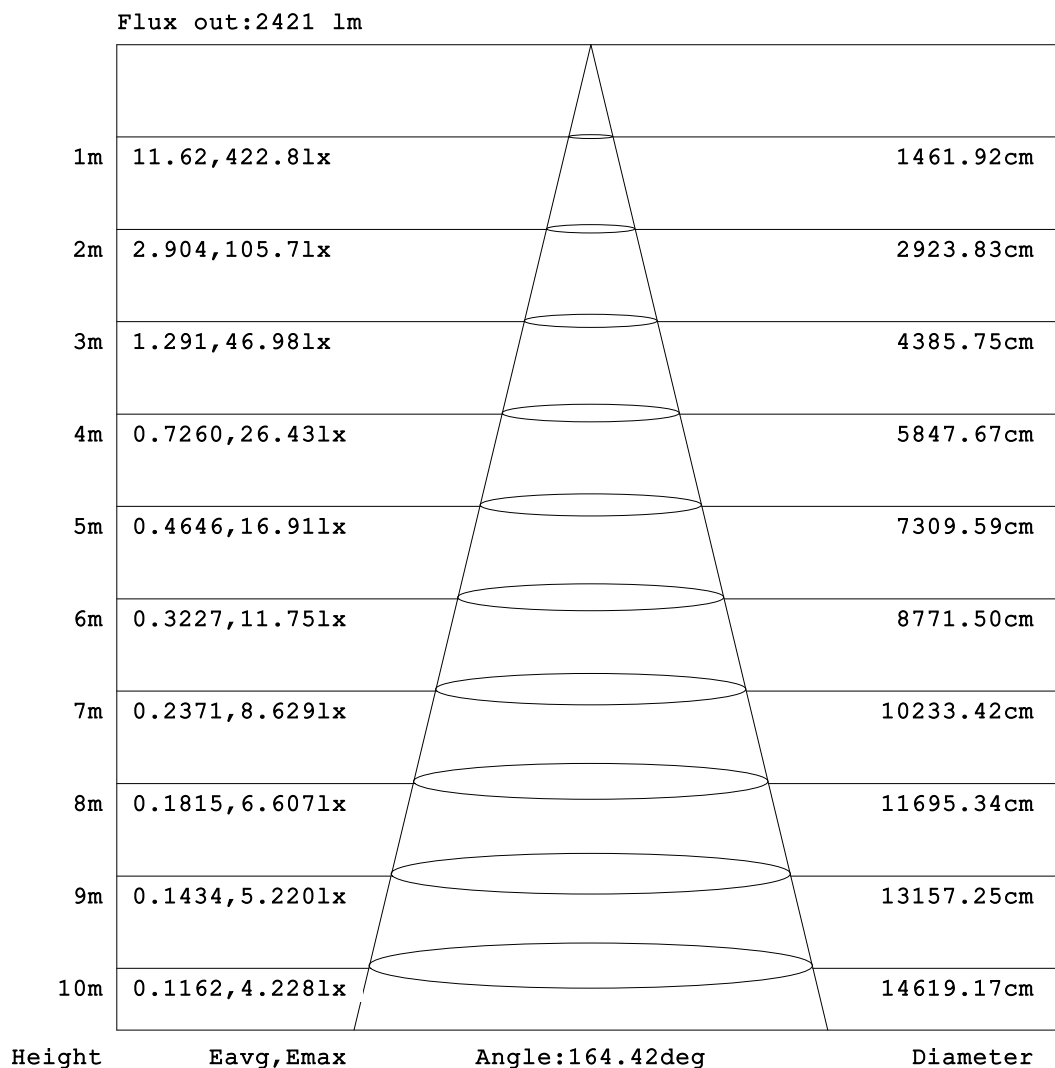


C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-09-12

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

AAI Figure

Test:U:240.4V I:0.0808A P:18.4W PF:0.9470 Freq:49.99Hz UTHDi:0.17% ITHDi:17.56% KDisp:0.9606 Lamp Flux:2532.78x1 lm		
NAME: HV5882T-18W-5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Havit Lighting	SUR.:	Shielding Angle:



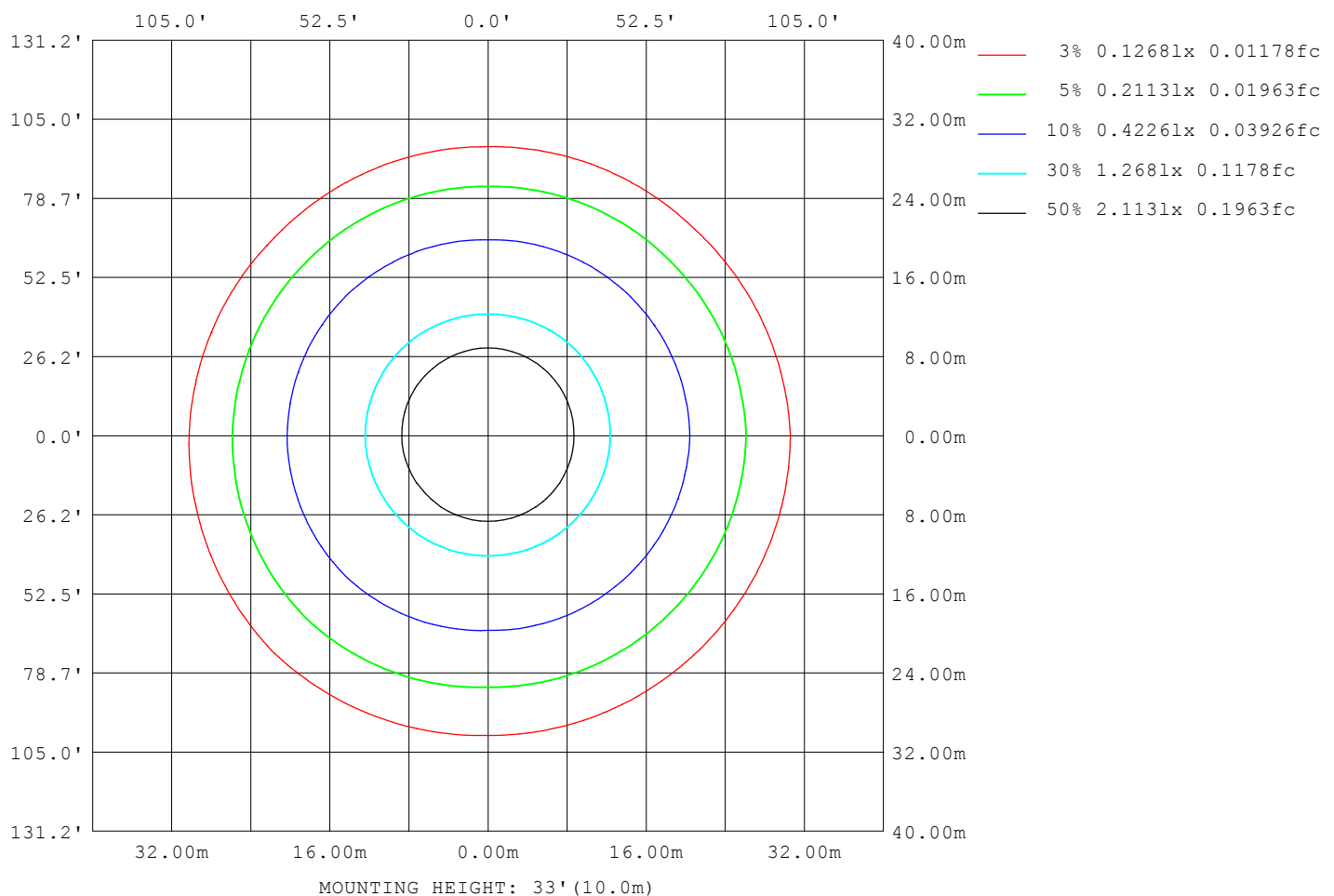
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-09-12

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:240.4V I:0.0808A P:18.4W PF:0.9470 Freq:49.99Hz		
UTHDi:0.17% ITHDi:17.56% KDisp:0.9606 Lamp Flux:2532.78x1 lm		
NAME: HV5882T-18W-5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Havit Lighting	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-09-12

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:240.4V I:0.0808A P:18.4W PF:0.9470 Freq:49.99Hz UTHDi:0.17% ITHDi:17.56% KDisp:0.9606 Lamp Flux:2532.78x1 lm		
NAME: HV5882T-18W-5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Havit Lighting	SUR.:	Shielding Angle:

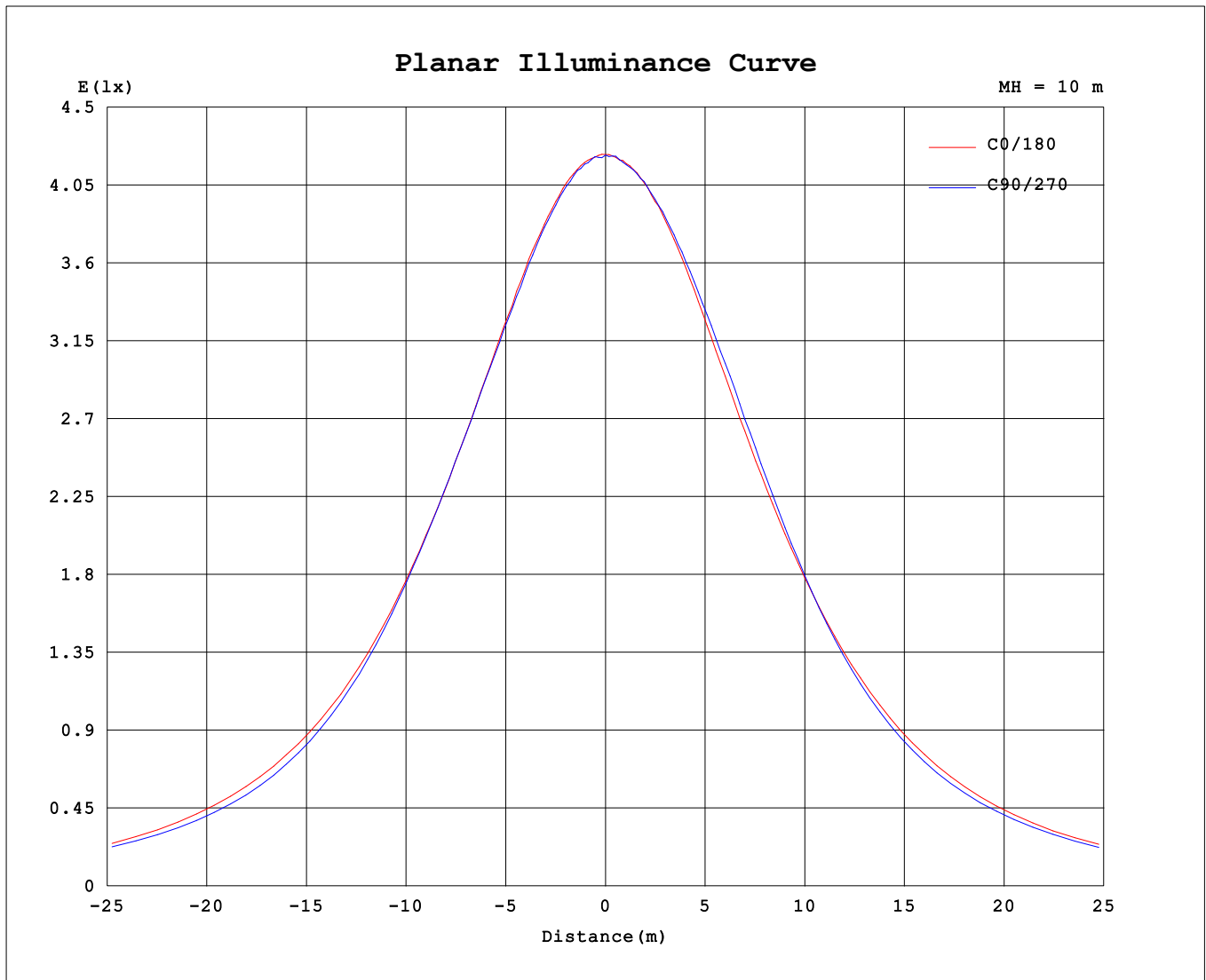
AvgL	cd/m2
L_0~180 (65) av	46055
L_0~180 (75) av	54407
L_0~180 (85) av	76756
L_90~270 (65) av	42452
L_90~270 (75) av	53670
L_90~270 (85) av	83473
L_45 (65) av	44737
L_45 (75) av	54445
L_45 (85) av	78927

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-09-12

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2023-09-12

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity: 65.0%
Test Distance: 3.090m [K=1.0000]
Remarks:

Test:U:240.4V I:0.0808A P:18.4W PF:0.9470 Freq:49.99Hz UTHDi:0.17% ITHDi:17.56% KDisp:0.9606 Lamp Flux:2532.78x1 lm		
NAME: HV5882T-18W-5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Havit Lighting	SUR.:	Shielding Angle:

UNIT: cd

[illegible]

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

```