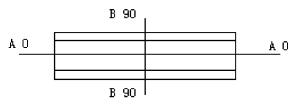
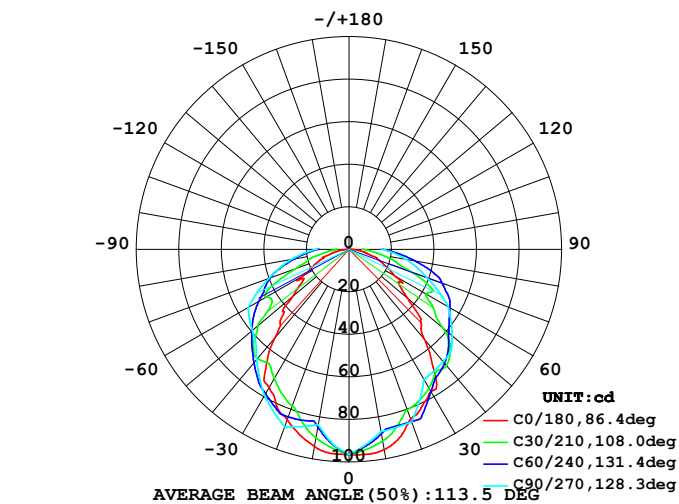


LUMINAIRE PHOTOMETRIC TEST REPORT

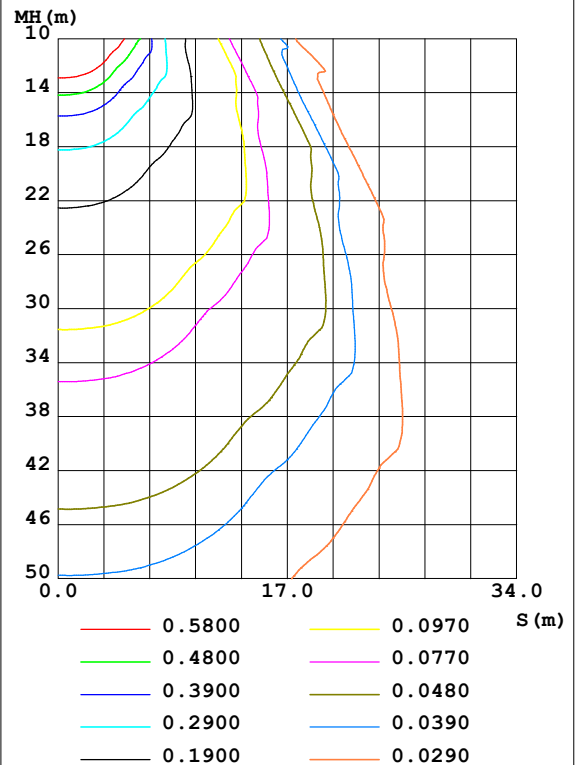
Test:U:220.7V I:0.0327A P:2.628W PF:0.3636 Lamp Flux:285.34lx1 lm		
NAME: NAVI-LED-CBS	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:2022121601
MFR.: JEWOO	SUR.:0.0374	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 108.58 lm/W			
MODEL	NAVI-LED-CBS	I _{max} (cd)	96.72	S/MH (C0/180)	1.17
NOMINAL POWER (W)		LOR (%)	100.0	S/MH (C90/270)	1.23
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	285.34	η UP, DN (C0-180)	0.0, 50.4
NOMINAL FLUX (lm)	285.341	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 49.6
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.50
TEST VOLTAGE (V)	220	η down (%)	100.0	CIBSE SHR MAX	1.50

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: HJL
 Test Date: 2022-12-16

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000H_V1 SYSTEM V2.0.287
 Humidity: 65.0%
 Test Distance: 13.693m [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	96.72	93.54	92.04	93.29	96.35	92.62	91.52	93.57	0- 5	2.262	2.262	0.79,0.79
10	95.63	89.31	87.02	88.78	94.11	86.97	83.75	88.25	5- 10	6.527	8.788	3.08,3.08
15	91.75	84.56	86.63	83.60	90.19	80.96	86.27	81.05	10- 15	10.37	19.15	6.71,6.71
20	84.89	83.97	86.24	82.64	85.04	80.18	88.80	80.91	15- 20	14.01	33.16	11.6,11.6
25	81.37	85.12	78.44	83.58	80.99	78.57	84.12	79.87	20- 25	17.30	50.46	17.7,17.7
30	77.02	82.81	70.64	80.92	75.16	75.92	79.45	77.13	25- 30	19.69	70.15	24.6,24.6
35	69.79	77.89	69.78	76.00	68.39	74.44	73.56	75.15	30- 35	21.51	91.66	32.1,32.1
40	55.01	75.51	68.91	73.34	54.38	74.44	67.68	73.62	35- 40	22.89	114.5	40.1,40.1
45	47.59	69.23	67.66	68.11	44.40	69.02	62.15	69.35	40- 45	23.69	138.2	48.4,48.4
50	35.98	63.55	63.30	61.20	34.36	62.08	59.47	64.21	45- 50	23.79	162.0	56.8,56.8
55	28.82	55.09	58.56	51.59	26.96	50.39	57.15	53.56	50- 55	22.47	184.5	64.7,64.7
60	24.37	45.54	53.82	42.32	24.96	43.35	54.83	44.79	55- 60	21.12	205.6	72.1,72.1
65	19.58	38.14	46.37	35.46	18.15	36.27	47.48	37.82	60- 65	19.65	225.3	78.9,78.9
70	14.94	34.35	38.92	30.49	14.28	30.40	40.13	33.34	65- 70	17.47	242.7	85.1,85.1
75	10.25	29.93	33.01	26.28	9.494	25.39	33.84	26.76	70- 75	14.88	257.6	90.3,90.3
80	7.067	22.39	27.10	20.97	5.792	18.59	27.55	20.02	75- 80	12.05	269.7	94.5,94.5
85	3.477	15.16	21.19	14.89	2.958	13.20	21.26	13.90	80- 85	9.176	278.8	97.7,97.7
90	0.1049	8.758	15.28	9.187	0.0583	8.339	14.98	8.431	85- 90	6.498	285.3	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:cd									UNIT:lm		

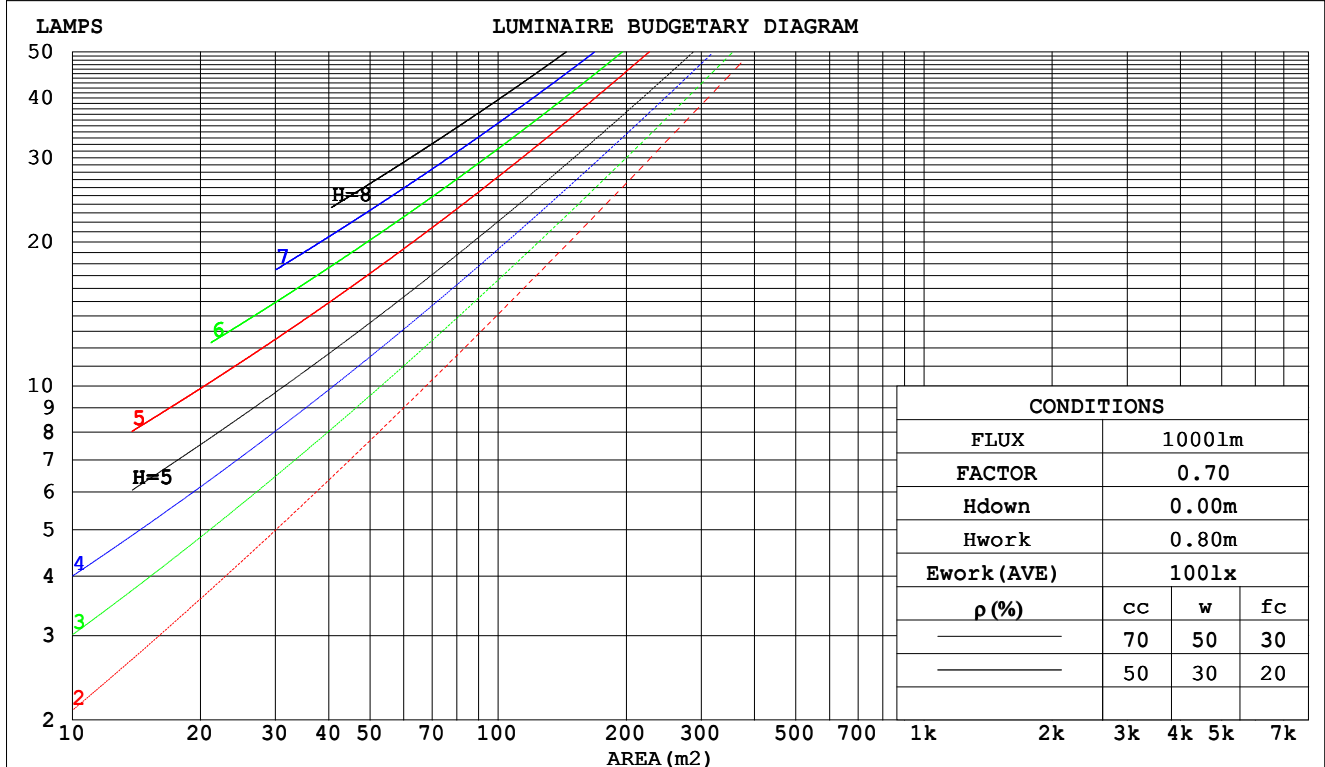
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:HJL
 Test Date:2022-12-16

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:13.693m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:220.7V I:0.0327A P:2.628W PF:0.3636 Lamp Flux:285.341x1 lm		
NAME: NAVI-LED-CBS	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:2022121601
MFR.: JEWOO	SUR.:0.0374	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	1.01	.96	.92	.99	.94	.90	.95	.91	.87	.91	.87	.85	.87	.84	.82	.80
2.0	.87	.80	.73	.85	.78	.72	.82	.76	.71	.78	.73	.69	.75	.71	.67	.65
3.0	.76	.67	.60	.74	.66	.60	.71	.64	.58	.69	.63	.57	.66	.61	.56	.54
4.0	.67	.58	.51	.66	.57	.50	.63	.56	.49	.61	.54	.49	.59	.53	.48	.46
5.0	.60	.50	.43	.59	.50	.43	.56	.49	.43	.54	.48	.42	.53	.46	.42	.39
6.0	.54	.44	.38	.53	.44	.37	.51	.43	.37	.49	.42	.37	.48	.41	.36	.34
7.0	.49	.40	.33	.48	.39	.33	.46	.38	.33	.45	.38	.33	.43	.37	.32	.30
8.0	.44	.36	.30	.44	.35	.29	.42	.35	.29	.41	.34	.29	.40	.34	.29	.27
9.0	.41	.32	.27	.40	.32	.26	.39	.32	.26	.38	.31	.26	.37	.31	.26	.24
10.0	.38	.29	.24	.37	.29	.24	.36	.29	.24	.35	.28	.24	.34	.28	.24	.22



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:HJL
 Test Date:2022-12-16

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:13.693m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:220.7V I:0.0327A P:2.628W PF:0.3636 Lamp Flux:285.341x1 lm								
NAME: NAVI-LED-CBS				TYPE:			WEIGHT:	
SPEC.:				DIM.:			SERIAL No.:2022121601	
MFR.: JEWOO				SUR.:0.0374			PROTECTION 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	.361	.205	.065	.354	.202	.064	.340	.195	.062	.328	.189	.061	.317	.183	.059	
2.0	.323	.177	.054	.316	.174	.054	.304	.169	.053	.293	.165	.051	.283	.160	.050	
3.0	.291	.155	.046	.285	.153	.046	.275	.149	.045	.265	.145	.045	.256	.142	.044	
4.0	.264	.137	.040	.259	.136	.040	.250	.133	.040	.241	.130	.039	.233	.127	.039	
5.0	.242	.123	.036	.237	.122	.035	.229	.119	.035	.221	.117	.035	.214	.114	.034	
6.0	.222	.111	.032	.218	.110	.032	.211	.108	.031	.204	.106	.031	.198	.104	.031	
7.0	.206	.102	.029	.202	.101	.029	.196	.099	.028	.189	.097	.028	.184	.095	.028	
8.0	.191	.093	.026	.188	.093	.026	.182	.091	.026	.177	.090	.026	.171	.088	.026	
9.0	.179	.086	.024	.176	.086	.024	.170	.084	.024	.166	.083	.024	.161	.082	.024	
10.0	.167	.080	.022	.165	.080	.022	.160	.078	.022	.156	.077	.022	.151	.076	.022	

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	.184	.156	.130	.157	.134	.112	.108	.092	.078	.062	.053	.045	.020	.017	.015	
2.0	.176	.132	.094	.151	.113	.081	.104	.078	.057	.060	.046	.033	.019	.015	.011	
3.0	.169	.114	.071	.144	.099	.062	.099	.069	.043	.057	.040	.026	.018	.013	.008	
4.0	.161	.101	.056	.138	.088	.049	.095	.061	.034	.055	.036	.020	.018	.012	.007	
5.0	.153	.091	.045	.131	.079	.040	.090	.055	.028	.052	.032	.017	.017	.011	.005	
6.0	.145	.083	.038	.125	.072	.033	.086	.050	.023	.050	.029	.014	.016	.010	.005	
7.0	.138	.076	.032	.119	.066	.028	.082	.046	.020	.048	.027	.012	.015	.009	.004	
8.0	.131	.070	.028	.113	.061	.024	.078	.043	.017	.045	.025	.010	.015	.008	.003	
9.0	.125	.065	.025	.108	.056	.022	.075	.040	.015	.043	.023	.009	.014	.008	.003	
10.0	.119	.061	.022	.103	.053	.019	.071	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:HJL
 Test Date:2022-12-16

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:13.693m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:220.7V I:0.0327A P:2.628W PF:0.3636 Lamp Flux:285.34lx1 lm											
NAME: NAVI-LED-CBS					TYPE:			WEIGHT:			
SPEC.:					DIM.:			SERIAL No.:2022121601			
MFR.: JEWOO					SUR.:0.0374			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	2H	22.2	23.8	22.4	24.0	24.2	24.4	26.0	24.7	26.2	26.4
	3H	23.2	24.7	23.5	24.9	25.2	26.6	28.0	26.9	28.3	28.5
	4H	23.6	25.0	23.9	25.3	25.5	27.6	29.0	27.9	29.3	29.6
	6H	23.8	25.2	24.2	25.5	25.7	28.7	30.1	29.1	30.3	30.6
	8H	23.9	25.2	24.3	25.5	25.8	29.3	30.6	29.6	30.9	31.2
	12H	24.0	25.2	24.3	25.5	25.9	29.9	31.1	30.2	31.4	31.8
4H	2H	23.4	24.8	23.7	25.0	25.3	25.0	26.4	25.3	26.7	26.9
	3H	24.8	26.1	25.2	26.4	26.7	27.6	28.8	27.9	29.1	29.4
	4H	25.4	26.6	25.8	26.9	27.2	28.9	30.1	29.3	30.4	30.7
	6H	25.8	26.8	26.2	27.2	27.6	30.2	31.3	30.6	31.6	32.0
	8H	25.9	26.9	26.3	27.2	27.6	30.9	31.9	31.3	32.2	32.6
	12H	26.0	26.9	26.4	27.3	27.7	31.6	32.5	32.0	32.9	33.3
8H	4H	26.4	27.4	26.8	27.8	28.2	29.2	30.2	29.7	30.6	31.0
	6H	27.1	27.9	27.6	28.4	28.8	30.9	31.7	31.4	32.2	32.6
	8H	27.4	28.1	27.8	28.5	29.0	31.9	32.6	32.3	33.0	33.5
	12H	27.5	28.2	28.0	28.6	29.1	32.9	33.5	33.3	33.9	34.4
12H	4H	26.7	27.6	27.2	28.0	28.4	29.2	30.1	29.7	30.5	30.9
	6H	27.6	28.3	28.1	28.8	29.2	31.0	31.8	31.5	32.2	32.6
	8H	28.0	28.6	28.5	29.1	29.6	32.0	32.7	32.5	33.1	33.6
Variations with the observer position at spacings:											
S = 1.0H	+ 0.2 / - 0.3					+ 0.1 / - 0.1					
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3					
2.0H	+ 0.8 / - 0.5					+ 0.3 / - 0.4					

CIE Pub.117 Corrected 285.3 lm Total Lamp Luminous Flux. (8log(F/F0) = -4.4)

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:HJL
 Test Date:2022-12-16

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:13.693m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:220.7V I:0.0327A P:2.628W PF:0.3636 Lamp Flux:285.341x1 lm		
NAME: NAVI-LED-CBS	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:2022121601
MFR.: JEWOO	SUR.:0.0374	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) $k(RI) \times RCR = 5$									
$k = 0.60$	55	43	36	54	43	36	53	42	36	29
0.80	65	53	45	64	52	45	62	51	44	37
1.00	73	61	53	72	61	53	69	62	53	45
1.25	80	69	61	78	68	61	76	66	60	52
1.50	85	74	67	83	73	66	80	71	65	57
2.00	92	83	75	90	81	75	86	79	73	65
2.50	96	87	81	94	86	80	90	83	78	69
3.00	100	92	86	97	90	85	93	87	82	73
4.00	104	97	92	102	96	91	97	92	88	79
5.00	107	101	96	104	99	95	99	95	92	82
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:HJL
 Test Date:2022-12-16

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:13.693m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

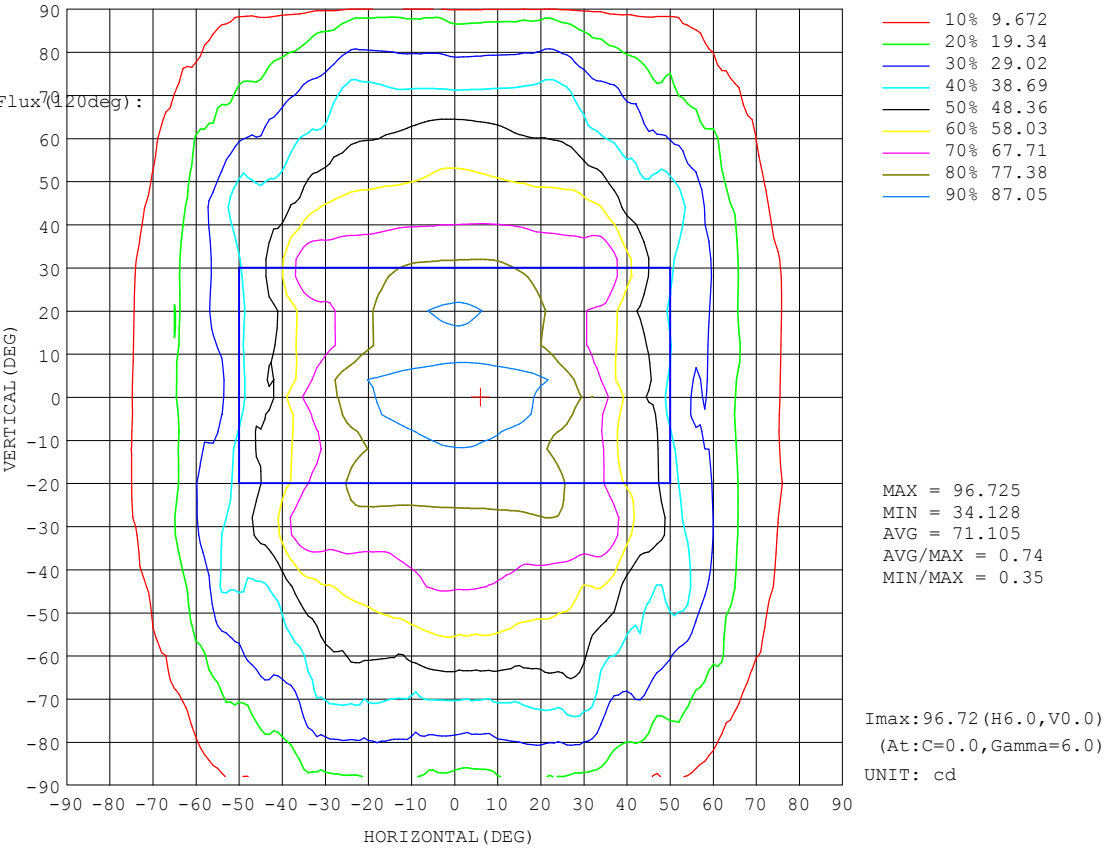
Test:U:220.7V I:0.0327A P:2.628W PF:0.3636 Lamp Flux:285.34lx1 lm		
NAME: NAVI-LED-CBS	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:2022121601
MFR.: JEWOO	SUR.:0.0374	PROTECTION ANGLE:

Conical surface Flux(90deg):

138.24 lm
%lum = 48.4%
%lamp = 48.4%

Conical surface Flux(70deg):

205.62 lm
%lum = 72.1%
%lamp = 72.1%

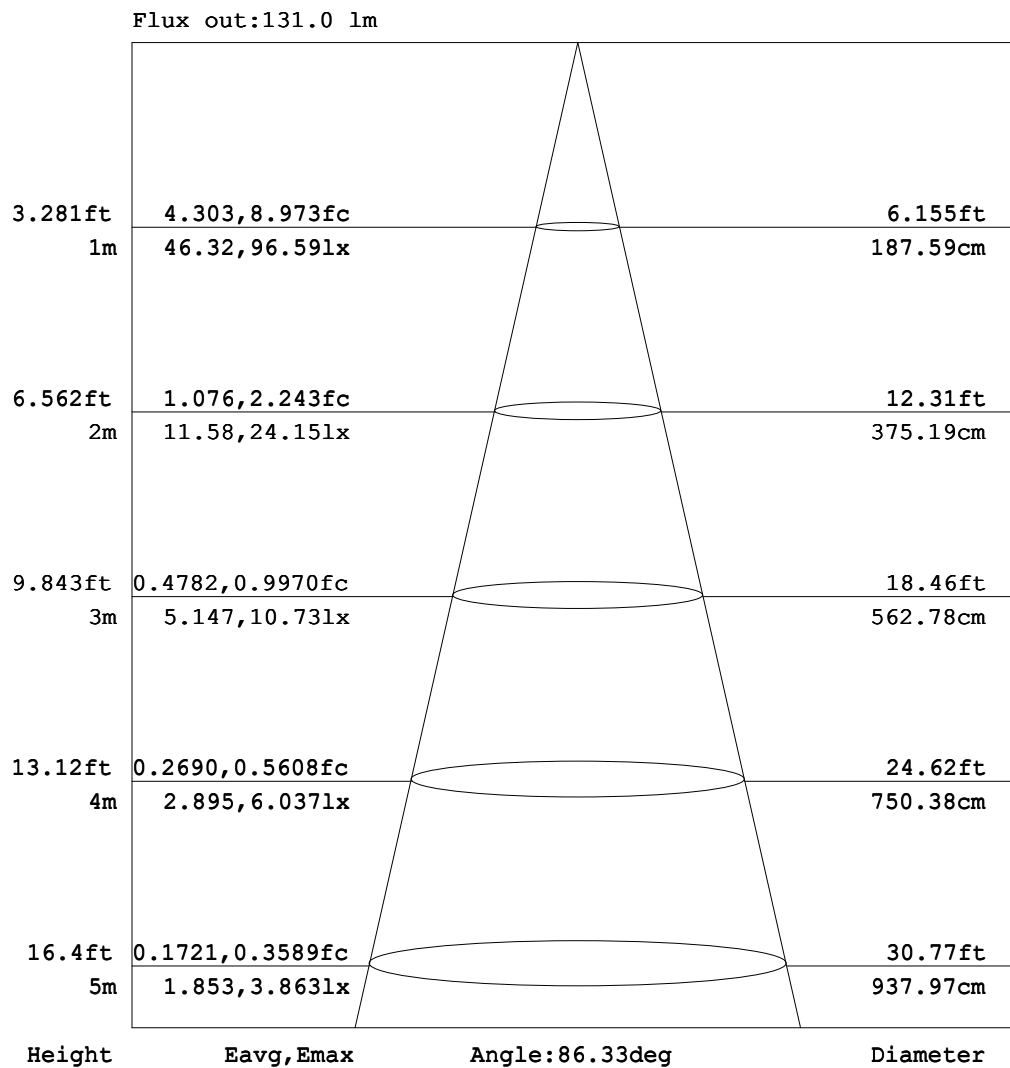


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:HJL
Test Date:2022-12-16

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.287
Humidity:65.0%
Test Distance:13.693m [K=1.0000]
Remarks:

AAI Figure

Test:U:220.7V I:0.0327A P:2.628W PF:0.3636 Lamp Flux:285.34lx1 lm		
NAME: NAVI-LED-CBS	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:2022121601
MFR.: JEWOO	SUR.:0.0374	PROTECTION ANGLE:



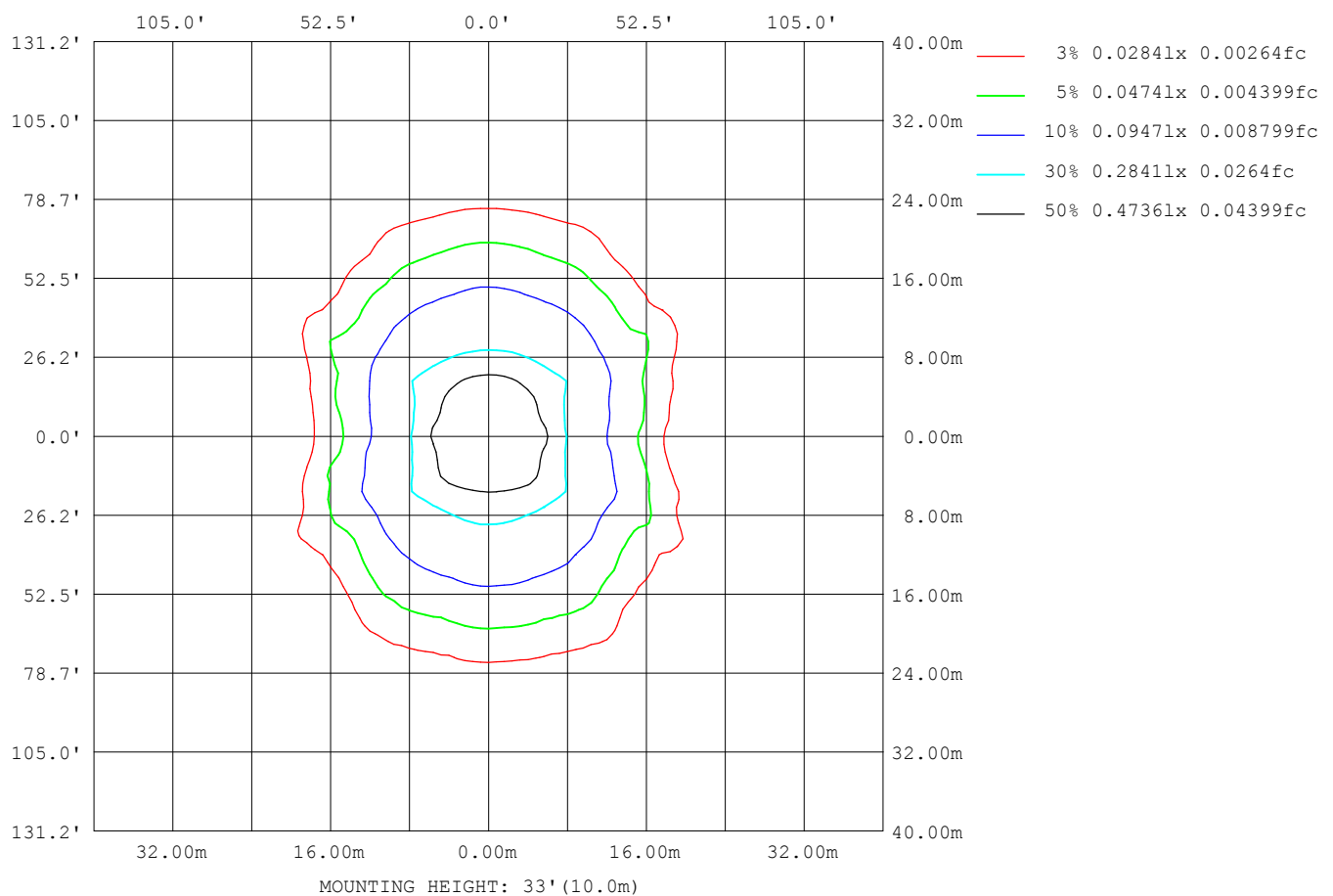
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:HJL
Test Date:2022-12-16

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.287
Humidity:65.0%
Test Distance:13.693m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

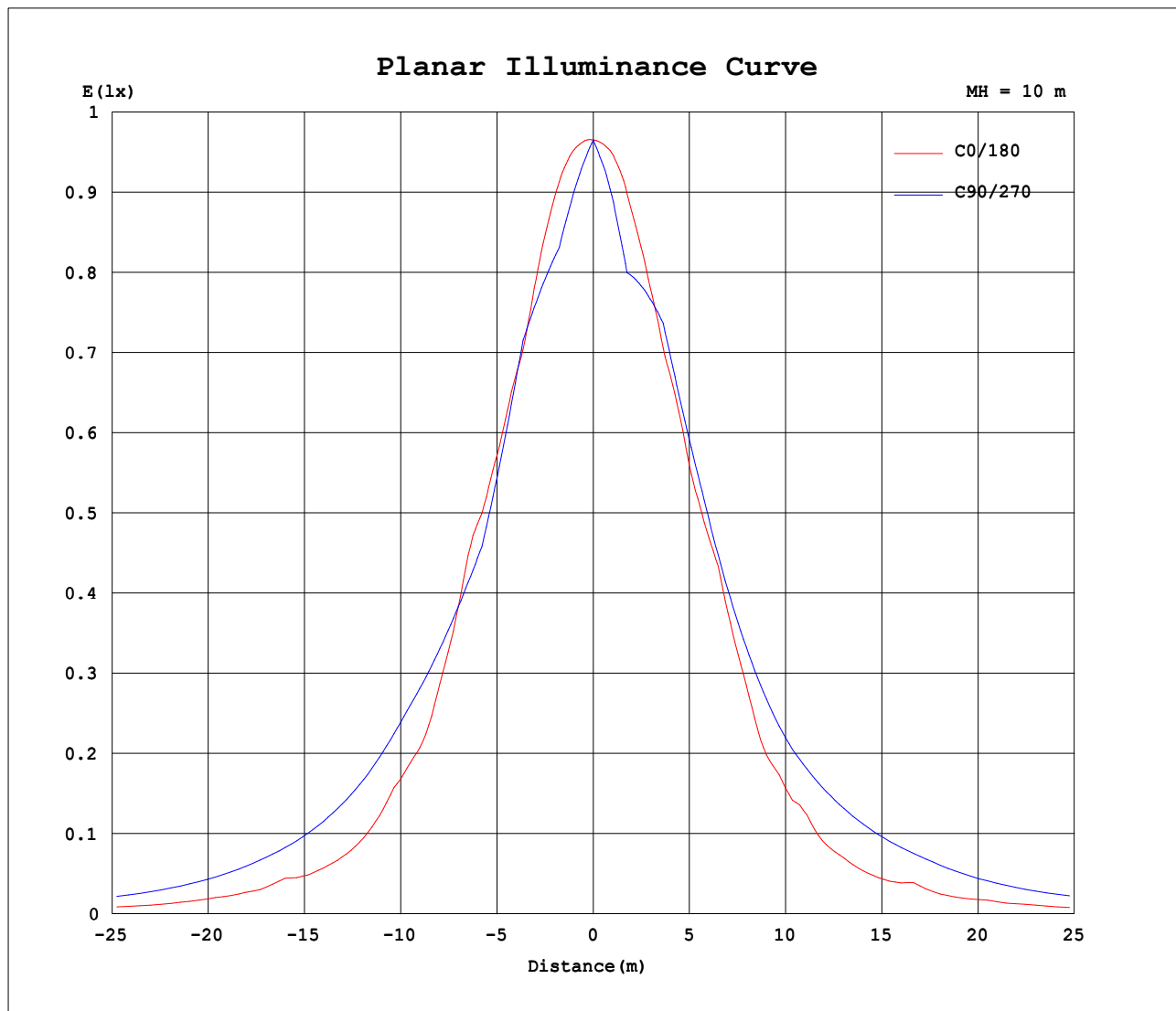
Test:U:220.7V I:0.0327A P:2.628W PF:0.3636 Lamp Flux:285.34lx1 lm		
NAME: NAVI-LED-CBS	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:2022121601
MFR.: JEWOO	SUR.:0.0374	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:HJL
 Test Date:2022-12-16

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:13.693m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: HJL
Test Date: 2022-12-16

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000H_V1 SYSTEM V2.0.287
Humidity: 65.0%
Test Distance: 13.693m [K=1.0000]
Remarks:

UNIT: cd

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.287
Humidity:65.0%
Test Distance:13.693m [K=1.0000]
Remarks:

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