

LUMINAIRE PHOTOMETRIC TEST REPORT

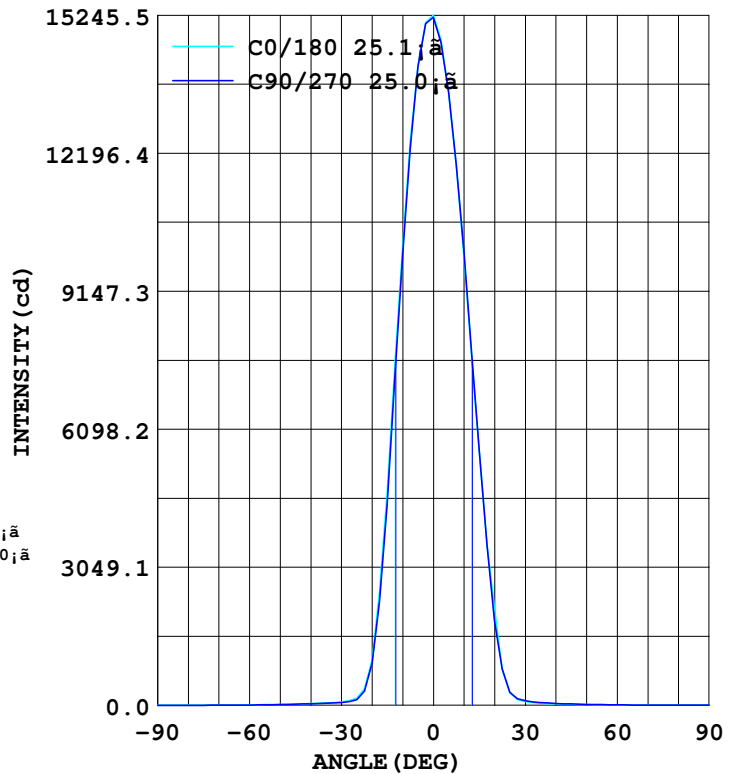
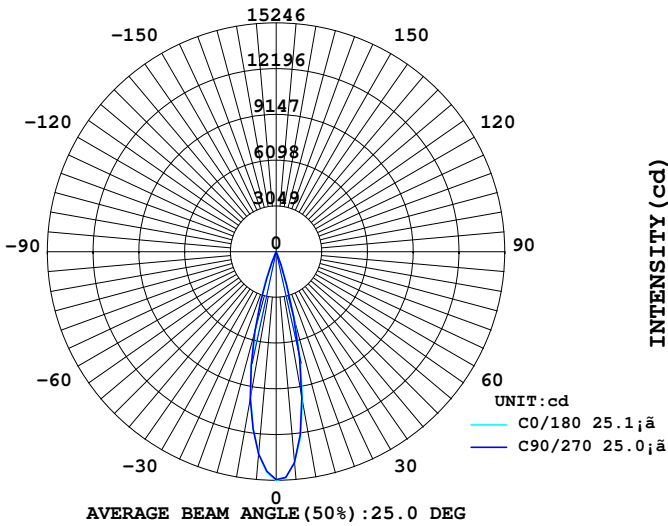
Report number: 0304-23

MANUFACTURER: BRIGHT		
Address:		
NAME: AMOSTRA	TYPE: SPOT DE TRILHO 24°	WEIGHT:
SPECIFICATION: LED 30W 3000K	DIMENSION:	SERIAL No.: ---

DATA OF LAMP		Imax (cd)	15246	S/MH (C0/180)	0.39
MODEL	LED	EFFICIENCY (%)	100.0	S/MH (C90/270)	0.39
NOMINAL POWER (W)	30	TOTAL FLUX (lm)	2830.6	Voltage (V)	220.6
RATED VOLTAGE (V)	220	EFFICIENCY (lm/W)	96.7	Current (A)	0.139
NOMINAL FLUX (lm)	2830.6	$\eta$ up (%)	0.0	Power (W)	29.28
LAMPS QUANTITY	1	$\eta$ down (%)	100.0	Power Factor (PF)	0.954
TEST VOLTAGE (V)	220.6	Effective Flux (lm)	2830.6	EEL	0.168

LUMINOUS INTENSITY DISTRIBUTION

LUMINOUS INTENSITY DISTRIBUTION



Test System: HOPOO HPG1800  
 Temperature: 25.3 DEG  
 Operators: CRISTIANE SANTOS  
 Test Date: 09-08-2023

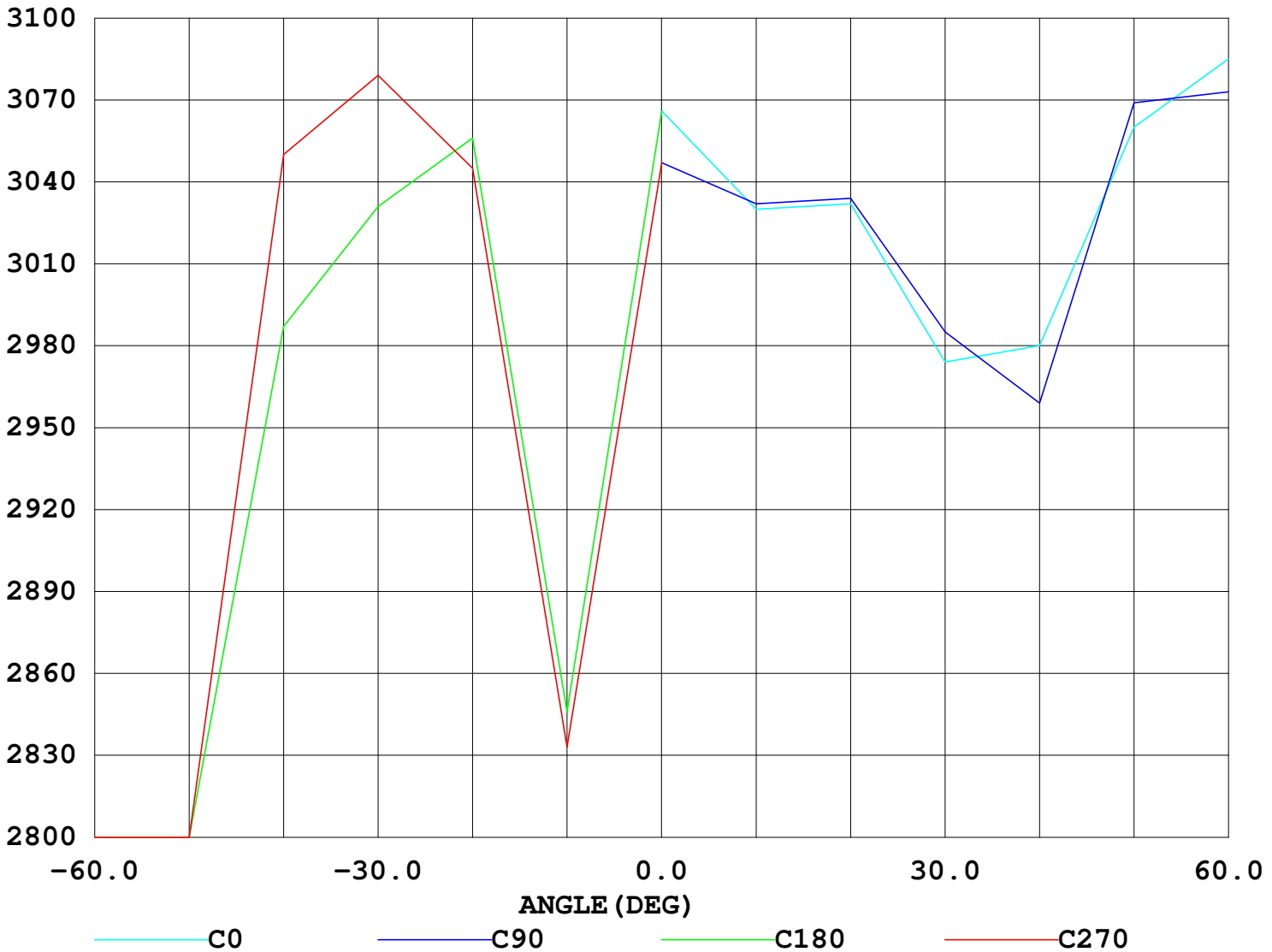
Test Set: 5.0 deg/s C-Gamma (TYPE C)  
 Humidity: 65.0%  
 Test Distance: 10.000 m  
 Remarks:

Color Temperature Distrib

Report number: 0304-23

MANUFACTURER: BRIGHT		
Address:		
NAME: AMOSTRA	TYPE: SPOT DE TRILHO 24°	WEIGHT:
SPECIFICATION: LED 30W 3000K	DIMENSION:	SERIAL No.: ---

COLOR TEMPERATURE DISTRIBUTION



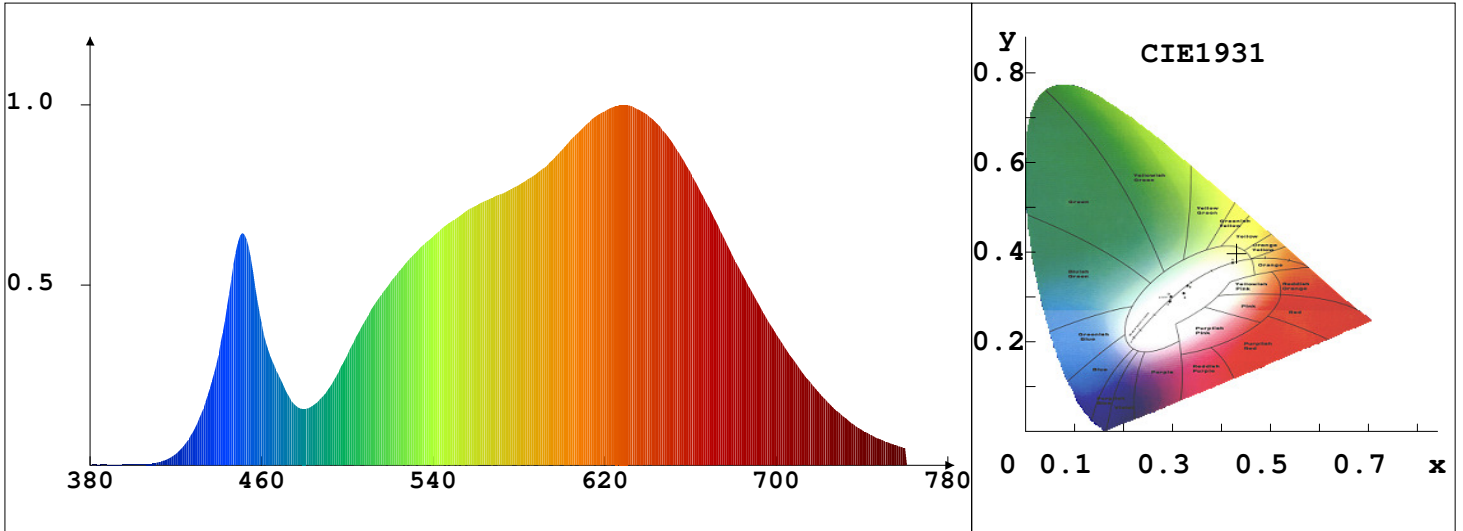
Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:CRISTIANE SANTOS  
 Test Date:09-08-2023

Test Set: 5.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:10.000 m  
 Remarks:

Spectrum Chart

Report number: 0304-23

MANUFACTURER: BRIGHT		
Address:		
NAME: AMOSTRA	TYPE: SPOT DE TRILHO 24°	WEIGHT:
SPECIFICATION: LED 30W 3000K	DIMENSION:	SERIAL No.: ---



Avg Chro. Para.

CCT: 3019K Chro. Coord.:  $x_a=0.4338$   $y_a=0.4000$   $u'_a=0.2503$   $v'_a=0.5193$   $|u'_a v'_a|=0.0030$

Current Angle:  $C=0.0^\circ$   $G=0.0^\circ$

Chroma Parameters

Chro.Coord.:  $x=0.4288$   $y=0.3950$   $u'=0.2492$   $v'=0.5165$   $duv=-0.0025$

CCT: 3066K Dominant Wave: 583.5nm Purity: 47.3% Light Intensity: 1667.4cd

Flux RGB Ratio: R=24.2%, G=73.3%, B=2.5% Peak Wave: 627.8nm Half Width: 167.9nm

Rendering Index: Ra= 91.5

R1 =93 R2 =93 R3 =91 R4 =92 R5 =92 R6 =90 R7 =93 R8 =88

R9 =70 R10=82 R11=91 R12=75 R13=93 R14=94 R15=92

Instrument State

Scan Range: 380nm-780nm Integral Time: 79.0ms Peak Signal: 79000 Dark Signal: 51105

Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:CRISTIANE SANTOS  
 Test Date:09-08-2023

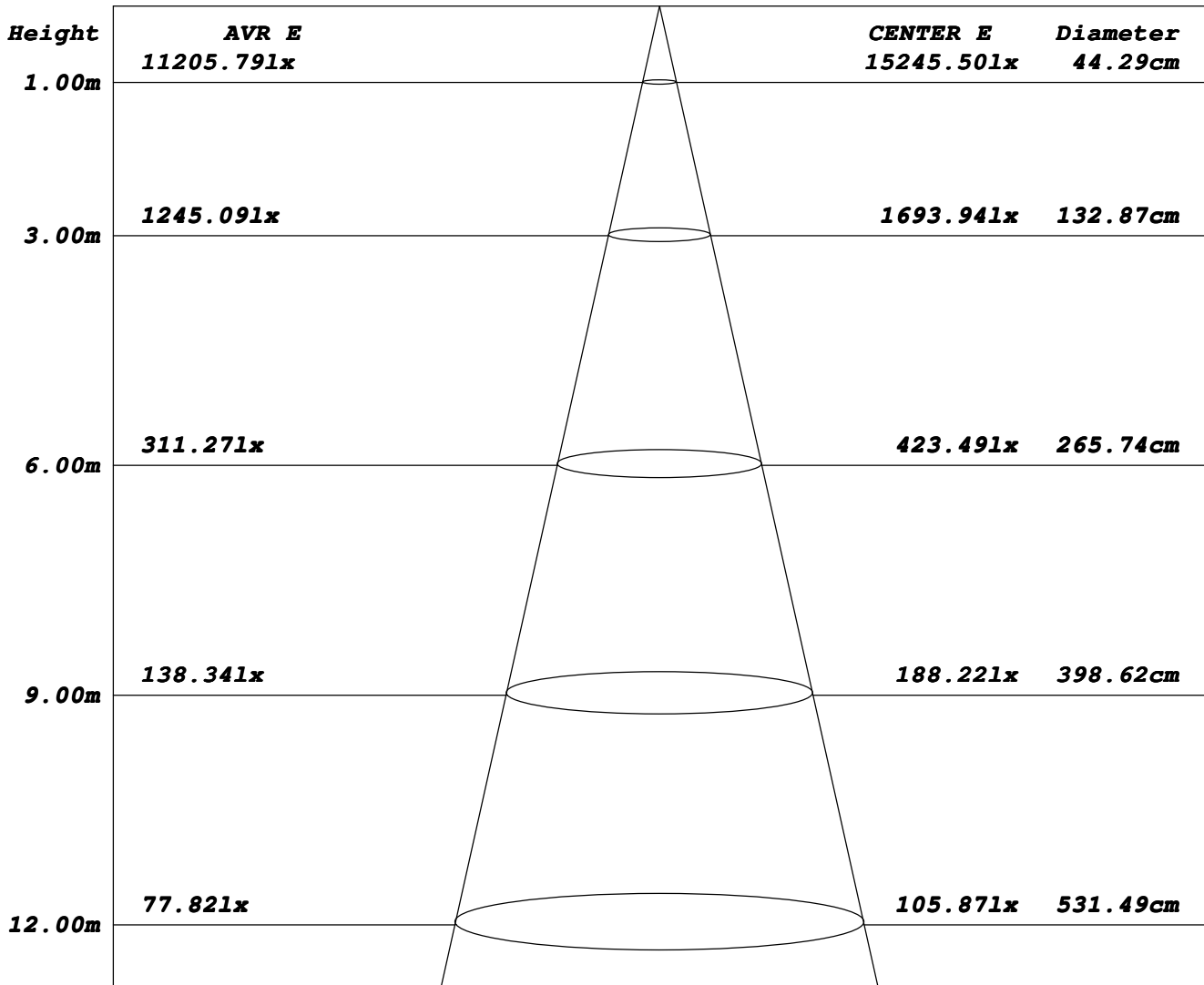
Test Set: 5.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:10.000 m  
 Remarks:



AVERAGE AND CENTER E Figure

Report number: 0304-23

MANUFACTURER: BRIGHT		
Address:		
NAME: AMOSTRA	TYPE: SPOT DE TRILHO 24°	WEIGHT:
SPECIFICATION: LED 30W 3000K	DIMENSION:	SERIAL No.: ---



Angle: 25.0deg

Test System: HOPOO HPG1800  
 Temperature: 25.3DEG  
 Operators: CRISTIANE SANTOS  
 Test Date: 09-08-2023

Test Set: 5.0deg/s C-Gamma (TYPE C)  
 Humidity: 65.0%  
 Test Distance: 10.000 m  
 Remarks:

ZONAL FLUX DIAGRAM

Report number: 0304-23

MANUFACTURER: BRIGHT		
Address:		
NAME: AMOSTRA	TYPE: SPOT DE TRILHO 24°	WEIGHT:
SPECIFICATION: LED 30W 3000K	DIMENSION:	SERIAL No.: ---

γ	C0	C90	C180	C270					γ	zone	total
5.0	1412	1411	1350	1353					0- 5	347.1	347.1
10.0	1011	992.5	987.2	999.8					5- 10	848.8	1196
15.0	471.3	445.6	557.2	558.1					10- 15	880.4	2076
20.0	100.4	93.59	215.2	186.7					15- 20	504.7	2581
25.0	15.83	12.35	27.95	28.71					20- 25	145.4	2727
30.0	7.680	6.310	7.850	10.39					25- 30	32.39	2759
35.0	5.110	4.480	4.560	5.870					30- 35	18.66	2778
40.0	3.940	3.480	3.140	4.210					35- 40	14.39	2792
45.0	2.820	2.370	2.240	3.010					40- 45	11.58	2804
50.0	1.990	1.560	1.500	2.060					45- 50	8.795	2812
55.0	1.440	1.080	1.040	1.500					50- 55	6.516	2819
60.0	0.990	0.630	0.650	1.020					55- 60	4.797	2824
65.0	0.680	0.230	0.290	0.640					60- 65	3.121	2827
70.0	0.290	0.020	0.070	0.270					65- 70	1.462	2828
75.0	0.210	0	0.060	0.200					70- 75	0.718	2829
80.0	0.170	0	0.060	0.170					75- 80	0.572	2830
85.0	0.140	0	0.060	0.140					80- 85	0.503	2830
90.0	0.110	0	0.090	0.120					85- 90	0.445	2831
95.0									90- 95		
100.0									95-100		
105.0									100-105		
110.0									105-110		
115.0									110-115		
120.0									115-120		
125.0									120-125		
130.0									125-130		
135.0									130-135		
140.0									135-140		
145.0									140-145		
150.0									145-150		
155.0									150-155		
160.0									155-160		
165.0									160-165		
170.0									165-170		
175.0									170-175		
180.0									175-180		
DEG	LUMINOUS INTENSITY: $\mu$ A10cd										UNIT: lm

Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:CRISTIANE SANTOS  
 Test Date:09-08-2023

Test Set: 5.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:10.000 m  
 Remarks:

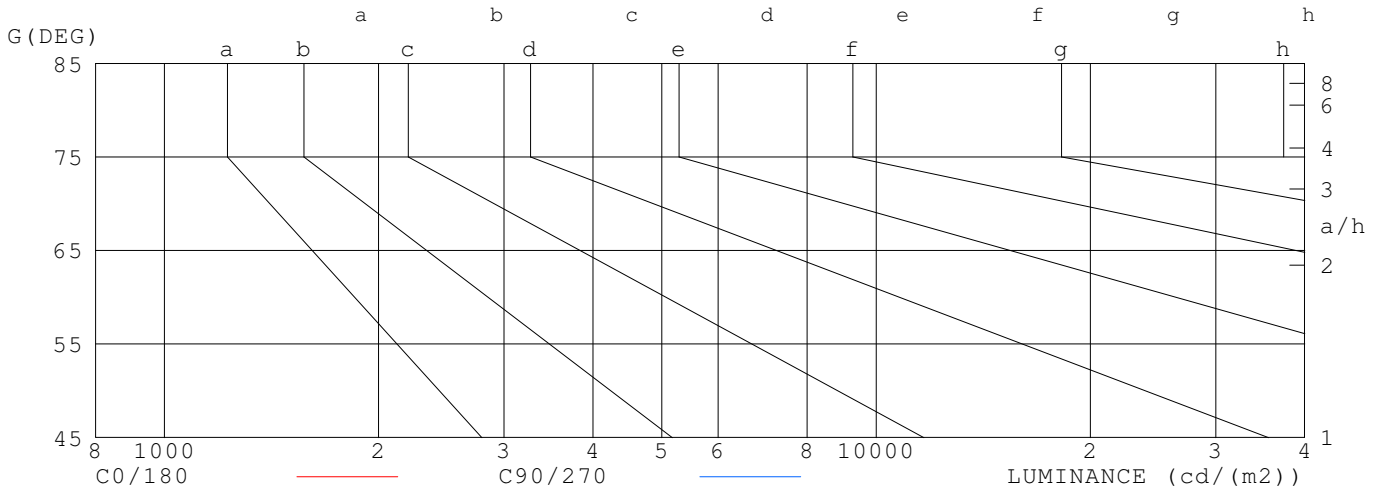
LUMINANCE LIMITATION CURVES

Report number: 0304-23

MANUFACTURER: BRIGHT		
Address:		
NAME: AMOSTRA	TYPE: SPOT DE TRILHO 24°	WEIGHT:
SPECIFICATION: LED 30W 3000K	DIMENSION:	SERIAL No.: ---

LUMINANCE LIMITATION CURVES

GLARE	CLASS	ILLUMINANCE (lx)							
1.15	A	2000	1000	500	<=300				
1.50	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.20	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300



LUMINANCE cd/m2		
G (DEG)	C0/180	C90/270
85	161	0
80	98	0
75	81	0
70	85	6
65	161	54
60	198	126
55	251	188
50	310	243
45	399	335

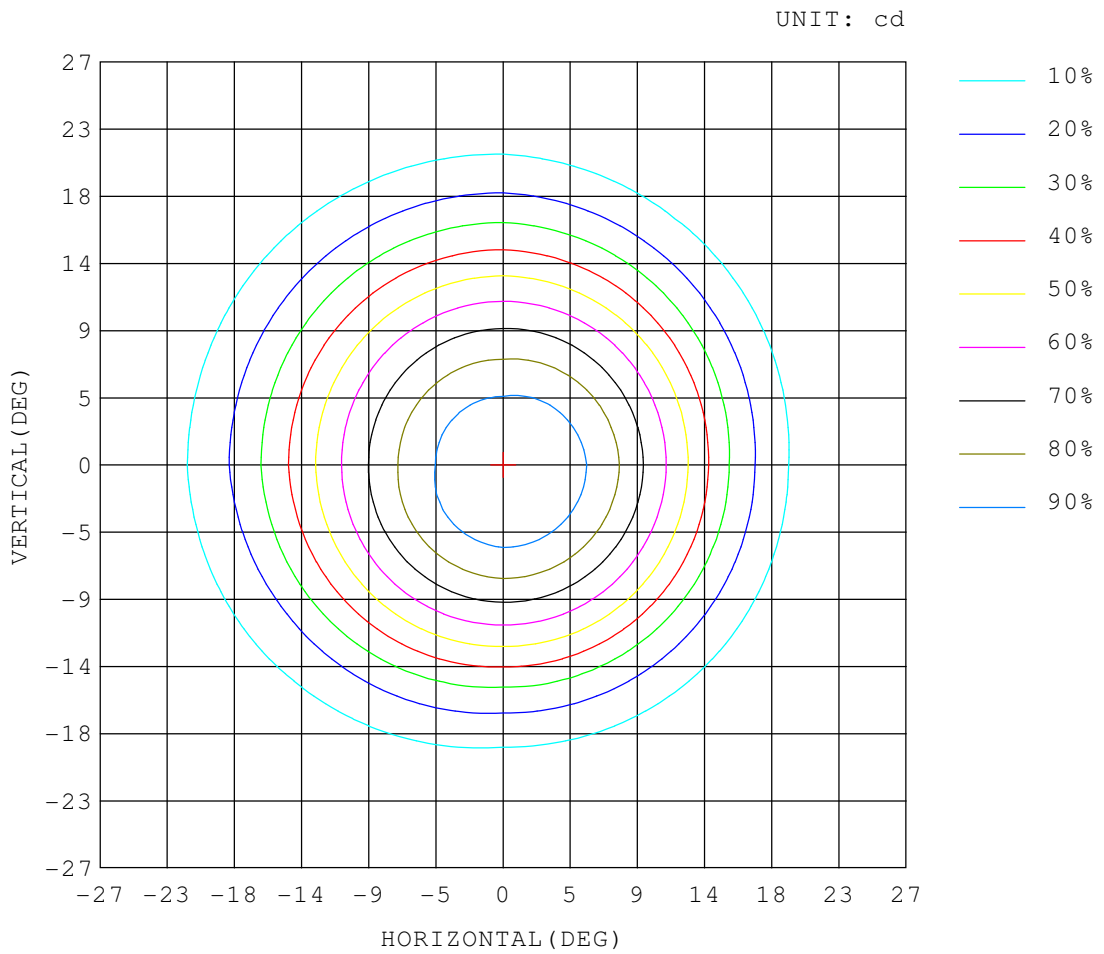
Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:CRISTIANE SANTOS  
 Test Date:09-08-2023

Test Set: 5.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:10.000 m  
 Remarks:

ISOCANDELA DIAGRAM

Report number: 0304-23

MANUFACTURER: BRIGHT		
Address:		
NAME: AMOSTRA	TYPE: SPOT DE TRILHO 24°	WEIGHT:
SPECIFICATION: LED 30W 3000K	DIMENSION:	SERIAL No.: ---



**Test System:HOPOO HPG1800**  
**Temperature:25.3DEG**  
**Operators:CRISTIANE SANTOS**  
**Test Date:09-08-2023**

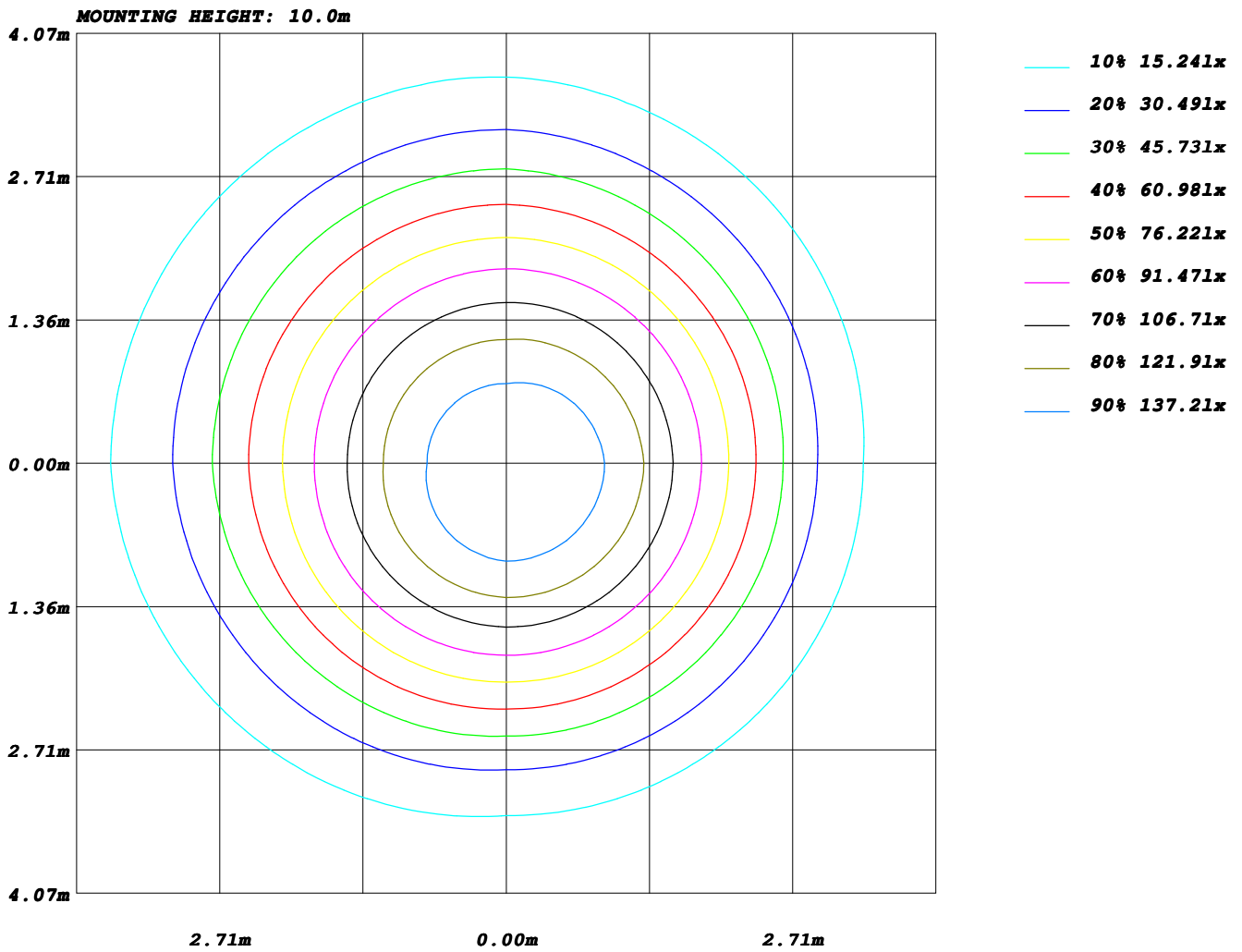
**Test Set: 5.0deg/s C-Gamma (TYPE C)**  
**Humidity:65.0%**  
**Test Distance:10.000 m**  
**Remarks:**



ISOLUX DIAGRAM

Report number: 0304-23

MANUFACTURER: BRIGHT		
Address:		
NAME: AMOSTRA	TYPE: SPOT DE TRILHO 24°	WEIGHT:
SPECIFICATION: LED 30W 3000K	DIMENSION:	SERIAL No.: ---



Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:CRISTIANE SANTOS  
 Test Date:09-08-2023

Test Set: 5.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:10.000 m  
 Remarks:

AREA LUMINOUS FLUX

Report number: 0304-23

MANUFACTURER: BRIGHT		
Address:		
NAME: AMOSTRA	TYPE: SPOT DE TRILHO 24°	WEIGHT:
SPECIFICATION: LED 30W 3000K	DIMENSION:	SERIAL No.: ---

		AREA FLUX DIAGRAM																	UNIT:lm		Φ t	Φ a
VERTICAL (DEG)	27	0.13	0.15	0.20	0.25	0.32	0.42	0.54	0.66	0.76	0.75	0.63	0.51	0.40	0.31	0.25	0.20	0.16	0.13	6.77	6.77	
	24	0.15	0.19	0.26	0.38	0.60	1.01	1.53	2.06	2.36	2.31	1.92	1.37	0.88	0.53	0.35	0.26	0.20	0.15	16.5	16.5	
	21	0.18	0.25	0.40	0.77	1.56	2.81	4.23	5.39	6.04	5.90	4.98	3.66	2.31	1.24	0.62	0.35	0.24	0.18	41.1	41.1	
	18	0.22	0.35	0.75	1.79	3.78	6.21	8.60	10.6	11.7	11.5	10.1	7.82	5.14	2.84	1.31	0.57	0.31	0.21	84.0	84.0	
	15	0.27	0.56	1.51	3.77	6.95	10.5	14.2	17.0	18.6	18.5	16.6	13.4	9.42	5.49	2.58	1.02	0.42	0.25	141	141	
	12	0.36	0.94	2.74	6.20	10.4	15.4	20.0	23.7	25.7	25.8	23.7	19.7	14.4	8.91	4.37	1.71	0.62	0.30	205	205	
	9	0.46	1.41	4.26	8.41	13.9	19.8	25.4	29.8	32.1	32.3	30.1	25.6	19.3	12.3	6.41	2.50	0.83	0.34	266	266	
		0.57	1.93	5.48	10.2	16.5	23.2	29.5	34.4	37.1	37.4	35.2	30.3	23.2	15.2	8.07	3.19	1.03	0.38	314	314	
		0.66	2.24	6.14	11.2	17.9	25.1	31.8	37.0	40.1	40.6	38.2	33.0	25.4	16.8	8.88	3.54	1.09	0.39	341	341	
		0.65	2.19	6.03	11.0	17.8	25.0	31.9	37.3	40.6	41.1	38.5	33.1	25.4	16.7	8.71	3.42	1.04	0.38	341	341	
		0.54	1.79	5.15	9.72	16.0	23.0	29.7	35.0	38.3	38.6	35.8	30.4	23.0	14.7	7.56	2.87	0.90	0.34	314	314	
	-9	0.42	1.24	3.81	7.62	12.9	19.2	25.2	30.0	32.9	33.1	30.4	25.4	18.7	11.4	5.62	2.04	0.66	0.30	261	261	
	-12	0.31	0.79	2.29	5.29	9.14	14.0	19.0	23.0	25.3	25.3	23.0	18.7	13.0	7.61	3.46	1.25	0.47	0.25	193	193	
	-15	0.23	0.46	1.17	2.97	5.58	8.72	12.1	15.0	16.6	16.5	14.7	11.4	7.60	4.12	1.78	0.69	0.32	0.21	121	121	
	-18	0.18	0.28	0.56	1.26	2.72	4.53	6.37	7.94	8.67	8.52	7.48	5.59	3.47	1.78	0.79	0.38	0.24	0.18	61.0	61.0	
	-21	0.15	0.20	0.30	0.53	1.00	1.75	2.62	3.27	3.51	3.37	2.86	2.05	1.25	0.68	0.38	0.25	0.19	0.16	24.5	24.5	
-24	0.13	0.16	0.20	0.27	0.39	0.59	0.80	1.00	1.05	1.00	0.87	0.64	0.45	0.31	0.24	0.19	0.16	0.13	8.59	8.59		
-27	0.11	0.13	0.15	0.18	0.22	0.27	0.31	0.34	0.35	0.34	0.31	0.28	0.24	0.21	0.18	0.16	0.14	0.12	4.03	4.03		
		-27	-24	-21	-18	-15	-12	-9	-6	HORIZONTAL (DEG)	6	9	12	15	18	21	24	27				
Φ t	5.72	15.3	41.4	82.0	138	202	264	314	342	343	316	263	194	121	61.5	24.6	9.05	4.40	2831			
Φ a	5.72	15.3	41.4	82.0	138	202	264	314	342	343	316	263	194	121	61.5	24.6	9.05	4.40		2831		

Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:CRISTIANE SANTOS  
 Test Date:09-08-2023

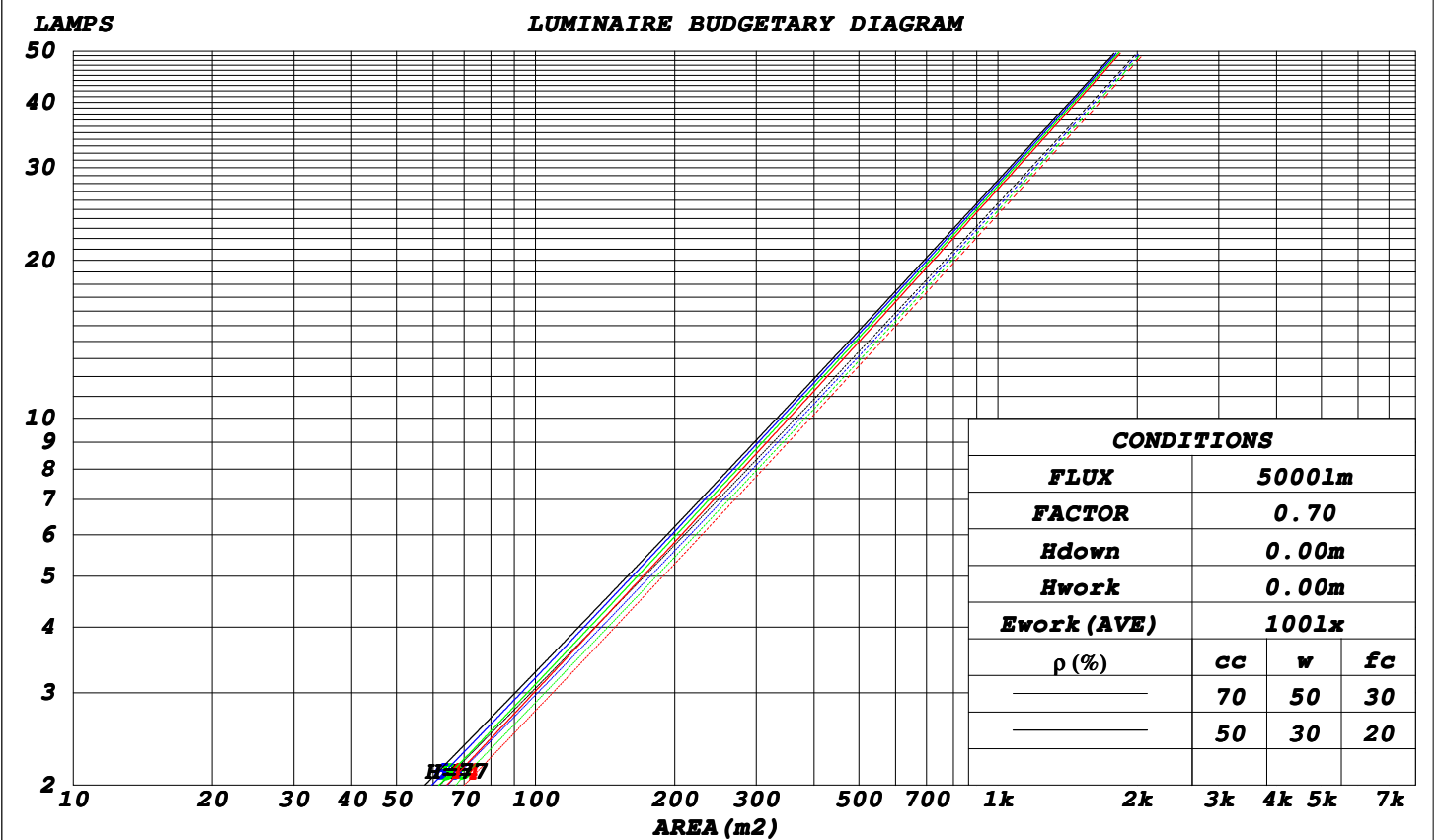
Test Set: 5.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:10.000 m  
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Report number: 0304-23

MANUFACTURER: BRIGHT														
Address:														
NAME: AMOSTRA					TYPE: SPOT DE TRILHO 24°					WEIGHT:				
SPECIFICATION: LED 30W 3000K					DIMENSION:					SERIAL No.: ---				

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	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	1.00
1.0	1.13	1.12	1.10	1.11	1.10	1.08	1.07	1.06	1.05	1.04	1.03	1.02	1.00	.00	.99	.97
2.0	1.09	1.06	1.03	1.07	1.04	1.02	1.04	1.02	1.00	1.01	.99	.98	.98	.97	.96	.95
3.0	1.04	1.01	.99	1.03	1.00	.98	1.01	.98	.96	.99	.97	.95	.96	.95	.93	.92
4.0	1.01	.97	.95	.00	.97	.94	.98	.95	.93	.96	.94	.92	.95	.93	.91	.90
5.0	.98	.94	.91	.97	.94	.91	.95	.92	.90	.94	.91	.89	.93	.90	.89	.88
6.0	.95	.91	.89	.94	.91	.88	.93	.90	.88	.92	.89	.87	.91	.88	.87	.86
7.0	.92	.89	.86	.92	.88	.86	.91	.88	.85	.90	.87	.85	.89	.87	.85	.84
8.0	.90	.86	.84	.90	.86	.84	.89	.86	.83	.88	.85	.83	.87	.85	.83	.82
9.0	.88	.84	.82	.88	.84	.82	.87	.84	.82	.86	.83	.81	.85	.83	.81	.80
10.0	.86	.82	.80	.86	.82	.80	.85	.82	.80	.84	.82	.80	.84	.81	.79	.79



Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:CRISTIANE SANTOS  
 Test Date:09-08-2023

Test Set: 5.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:10.000 m  
 Remarks:

WEC AND CCEC

Report number: 0304-23

MANUFACTURER: BRIGHT		
Address:		
NAME: AMOSTRA	TYPE: SPOT DE TRILHO 24°	WEIGHT:
SPECIFICATION: LED 30W 3000K	DIMENSION:	SERIAL No.: ---

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	20%			20%			20%			20%			20%			0
<b>RCR</b>	<b>RCR:Room Cavity Ratio</b>						<b>Wall Exitance Coefficients (WEC)</b>									
0.0																
1.0	.128	.073	.023	.122	.069	.022	.109	.063	.020	.098	.057	.018	.088	.051	.016	
2.0	.118	.065	.020	.112	.062	.019	.102	.057	.018	.093	.052	.016	.084	.048	.015	
3.0	.109	.058	.017	.104	.056	.017	.096	.052	.016	.088	.048	.015	.081	.045	.014	
4.0	.101	.053	.015	.098	.051	.015	.091	.048	.014	.084	.045	.014	.078	.042	.013	
5.0	.095	.048	.014	.092	.047	.014	.086	.045	.013	.080	.042	.013	.075	.040	.012	
6.0	.089	.045	.013	.087	.044	.013	.082	.042	.012	.077	.040	.012	.072	.038	.011	
7.0	.085	.042	.012	.082	.041	.012	.078	.039	.011	.074	.038	.011	.070	.036	.011	
8.0	.080	.039	.011	.078	.039	.011	.075	.037	.011	.071	.036	.010	.068	.035	.010	
9.0	.077	.037	.010	.075	.037	.010	.072	.035	.010	.068	.034	.010	.065	.033	.010	
10.0	.073	.035	.010	.072	.035	.010	.069	.034	.009	.066	.033	.009	.063	.032	.009	

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	20%			20%			20%			20%			20%			0
<b>RCR</b>	<b>RCR:Room Cavity Ratio</b>						<b>Ceiling Cavity Exitance Coefficients (CCEC)</b>									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.168	.158	.149	.144	.135	.128	.098	.093	.089	.057	.054	.051	.018	.017	.017	
2.0	.149	.133	.119	.128	.114	.103	.087	.079	.072	.050	.046	.042	.016	.015	.014	
3.0	.133	.113	.097	.114	.098	.084	.079	.068	.059	.045	.040	.035	.015	.013	.011	
4.0	.120	.098	.080	.103	.084	.070	.071	.059	.049	.041	.034	.029	.013	.011	.010	
5.0	.109	.085	.067	.094	.074	.059	.065	.052	.041	.038	.030	.025	.012	.010	.008	
6.0	.100	.075	.057	.086	.065	.050	.059	.046	.035	.034	.027	.021	.011	.009	.007	
7.0	.092	.067	.049	.079	.058	.043	.055	.041	.030	.032	.024	.018	.010	.008	.006	
8.0	.086	.060	.042	.074	.052	.037	.051	.036	.026	.030	.021	.016	.010	.007	.005	
9.0	.080	.054	.037	.069	.047	.032	.048	.033	.023	.028	.019	.014	.009	.006	.004	
10.0	.075	.049	.032	.064	.043	.028	.045	.030	.020	.026	.018	.012	.008	.006	.004	

Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:CRISTIANE SANTOS  
 Test Date:09-08-2023

Test Set: 5.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:10.000 m  
 Remarks:

Uncorrected UGR Table

Report number: 0304-23

MANUFACTURER: BRIGHT										
Address:										
NAME: AMOSTRA					TYPE: SPOT DE TRILHO 24°			WEIGHT:		
SPECIFICATION: LED 30W 3000K					DIMENSION:			SERIAL No.: ---		

<b>ceiling/cavity</b>	<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>	<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>
<b>walls</b>	<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>
<b>working plane</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>
<b>Room dimensions</b>	<b>Viewed crosswise</b>					<b>Viewed endwise</b>				
<b>x = 2H y = 2H</b>	<b>-3.7</b>	<b>-3.1</b>	<b>-3.5</b>	<b>-2.9</b>	<b>-2.8</b>	<b>-4.7</b>	<b>-4.1</b>	<b>-4.5</b>	<b>-4.0</b>	<b>-3.8</b>
<b>3H</b>	<b>-3.4</b>	<b>-2.9</b>	<b>-3.2</b>	<b>-2.7</b>	<b>-2.5</b>	<b>-4.8</b>	<b>-4.2</b>	<b>-4.5</b>	<b>-4.0</b>	<b>-3.9</b>
<b>4H</b>	<b>-3.4</b>	<b>-2.9</b>	<b>-3.1</b>	<b>-2.7</b>	<b>-2.4</b>	<b>-4.8</b>	<b>-4.3</b>	<b>-4.6</b>	<b>-4.1</b>	<b>-3.9</b>
<b>6H</b>	<b>-3.3</b>	<b>-2.8</b>	<b>-3.0</b>	<b>-2.6</b>	<b>-2.3</b>	<b>-4.9</b>	<b>-4.4</b>	<b>-4.7</b>	<b>-4.2</b>	<b>-4.0</b>
<b>8H</b>	<b>-3.2</b>	<b>-2.8</b>	<b>-2.9</b>	<b>-2.5</b>	<b>-2.3</b>	<b>-5.0</b>	<b>-4.5</b>	<b>-4.7</b>	<b>-4.2</b>	<b>-4.0</b>
<b>12H</b>	<b>-3.1</b>	<b>-2.7</b>	<b>-2.8</b>	<b>-2.4</b>	<b>-2.1</b>	<b>-5.0</b>	<b>-4.6</b>	<b>-4.7</b>	<b>-4.3</b>	<b>-4.0</b>
<b>4H 2H</b>	<b>-3.6</b>	<b>-3.1</b>	<b>-3.4</b>	<b>-2.9</b>	<b>-2.7</b>	<b>-4.6</b>	<b>-4.0</b>	<b>-4.3</b>	<b>-3.8</b>	<b>-3.6</b>
<b>3H</b>	<b>-3.4</b>	<b>-2.9</b>	<b>-3.1</b>	<b>-2.6</b>	<b>-2.4</b>	<b>-4.6</b>	<b>-4.2</b>	<b>-4.3</b>	<b>-3.9</b>	<b>-3.7</b>
<b>4H</b>	<b>-3.3</b>	<b>-2.9</b>	<b>-3.0</b>	<b>-2.6</b>	<b>-2.3</b>	<b>-4.7</b>	<b>-4.3</b>	<b>-4.4</b>	<b>-4.0</b>	<b>-3.7</b>
<b>6H</b>	<b>-3.2</b>	<b>-2.8</b>	<b>-2.8</b>	<b>-2.5</b>	<b>-2.1</b>	<b>-4.8</b>	<b>-4.4</b>	<b>-4.5</b>	<b>-4.1</b>	<b>-3.8</b>
<b>8H</b>	<b>-3.1</b>	<b>-2.7</b>	<b>-2.7</b>	<b>-2.4</b>	<b>-2.0</b>	<b>-4.9</b>	<b>-4.5</b>	<b>-4.5</b>	<b>-4.2</b>	<b>-3.8</b>
<b>12H</b>	<b>-2.9</b>	<b>-2.5</b>	<b>-2.5</b>	<b>-2.2</b>	<b>-1.8</b>	<b>-4.9</b>	<b>-4.6</b>	<b>-4.5</b>	<b>-4.2</b>	<b>-3.9</b>
<b>8H 4H</b>	<b>-3.4</b>	<b>-3.1</b>	<b>-3.0</b>	<b>-2.7</b>	<b>-2.4</b>	<b>-4.8</b>	<b>-4.5</b>	<b>-4.5</b>	<b>-4.1</b>	<b>-3.8</b>
<b>6H</b>	<b>-3.3</b>	<b>-3.0</b>	<b>-2.8</b>	<b>-2.6</b>	<b>-2.2</b>	<b>-4.9</b>	<b>-4.6</b>	<b>-4.5</b>	<b>-4.2</b>	<b>-3.8</b>
<b>8H</b>	<b>-3.1</b>	<b>-2.8</b>	<b>-2.6</b>	<b>-2.4</b>	<b>-2.0</b>	<b>-5.0</b>	<b>-4.7</b>	<b>-4.5</b>	<b>-4.3</b>	<b>-3.8</b>
<b>12H</b>	<b>-2.8</b>	<b>-2.5</b>	<b>-2.3</b>	<b>-2.1</b>	<b>-1.6</b>	<b>-5.0</b>	<b>-4.8</b>	<b>-4.5</b>	<b>-4.3</b>	<b>-3.9</b>
<b>12H 4H</b>	<b>-3.5</b>	<b>-3.2</b>	<b>-3.1</b>	<b>-2.8</b>	<b>-2.4</b>	<b>-4.9</b>	<b>-4.5</b>	<b>-4.5</b>	<b>-4.2</b>	<b>-3.8</b>
<b>6H</b>	<b>-3.3</b>	<b>-3.0</b>	<b>-2.9</b>	<b>-2.6</b>	<b>-2.2</b>	<b>-4.9</b>	<b>-4.7</b>	<b>-4.5</b>	<b>-4.3</b>	<b>-3.8</b>
<b>8H</b>	<b>-3.1</b>	<b>-2.9</b>	<b>-2.6</b>	<b>-2.4</b>	<b>-2.0</b>	<b>-5.0</b>	<b>-4.7</b>	<b>-4.5</b>	<b>-4.3</b>	<b>-3.8</b>
<b>Variations with the observer position at spacings:</b>										
<b>S = 1.0H</b>	<b>+ 1.0 / - 1.4</b>					<b>+ 1.5 / - 2.5</b>				
<b>1.5H</b>	<b>+ 1.2 / - 0.9</b>					<b>+ 1.5 / - 1.4</b>				
<b>2.0H</b>	<b>+ 2.1 / - 1.7</b>					<b>+ 2.6 / - 2.9</b>				

CIE Pub.117 Corrected 2831 lm Total Lamp Luminous Flux. (8log(F/F0) = 3.6)

Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:CRISTIANE SANTOS  
 Test Date:09-08-2023

Test Set: 5.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:10.000 m  
 Remarks:

## UTILIZATION FACTORS TABLE

Report number: 0304-23

MANUFACTURER: BRIGHT		
Address:		
NAME: AMOSTRA	TYPE: SPOT DE TRILHO 24°	WEIGHT:
SPECIFICATION: LED 30W 3000K	DIMENSION:	SERIAL No.: ---

REFLECTANCE										
<b>Ceiling</b>	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
<b>Walls</b>	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
<b>Working plane</b>	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
<b>ROOM INDEX</b>	<b>UTILIZATION FACTORS (PERCENT) <math>k(RI) \times RCR = 5</math></b>									
<b>k = 0.60</b>	91	85	82	90	85	81	90	84	81	78
<b>0.80</b>	98	92	89	97	92	89	96	92	89	85
<b>1.00</b>	102	96	93	101	96	93	99	96	92	89
<b>1.25</b>	105	100	97	104	100	97	102	99	96	92
<b>1.50</b>	108	103	100	106	103	100	104	101	99	94
<b>2.00</b>	110	106	103	108	105	102	106	103	101	96
<b>2.50</b>	111	108	105	110	107	104	107	104	102	97
<b>3.00</b>	113	109	107	111	108	106	108	105	104	98
<b>4.00</b>	114	112	110	112	110	109	109	107	106	99
<b>5.00</b>	116	114	112	114	112	110	110	108	107	100
<b>ROOM INDEX</b>	<b>UF(total)</b>									<b>Direct</b>
<b>According to DIN EN 13032-2 2004</b>			<b>Suspended</b>				<b>SHRNOM = 1.25</b>			

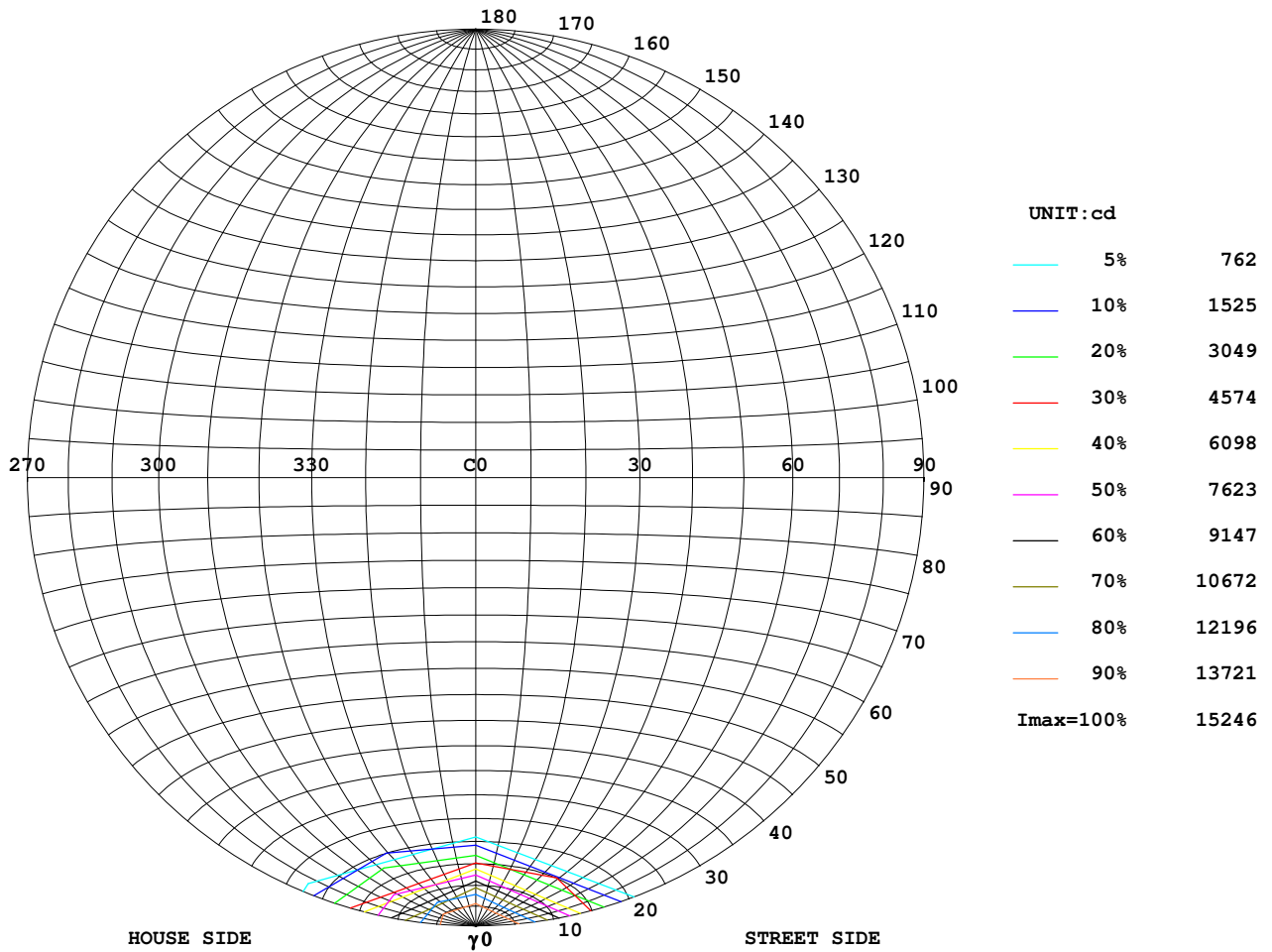
**Test System:HOPOO HPG1800**  
**Temperature:25.3DEG**  
**Operators:CRISTIANE SANTOS**  
**Test Date:09-08-2023**

**Test Set: 5.0deg/s C-Gamma (TYPE C)**  
**Humidity:65.0%**  
**Test Distance:10.000 m**  
**Remarks:**

ISOCANDELA DIAGRAM

Report number: 0304-23

MANUFACTURER: BRIGHT		
Address:		
NAME: AMOSTRA	TYPE: SPOT DE TRILHO 24°	WEIGHT:
SPECIFICATION: LED 30W 3000K	DIMENSION:	SERIAL No.: ---



Test System: HOPOO HPG1800  
 Temperature: 25.3 DEG  
 Operators: CRISTIANE SANTOS  
 Test Date: 09-08-2023

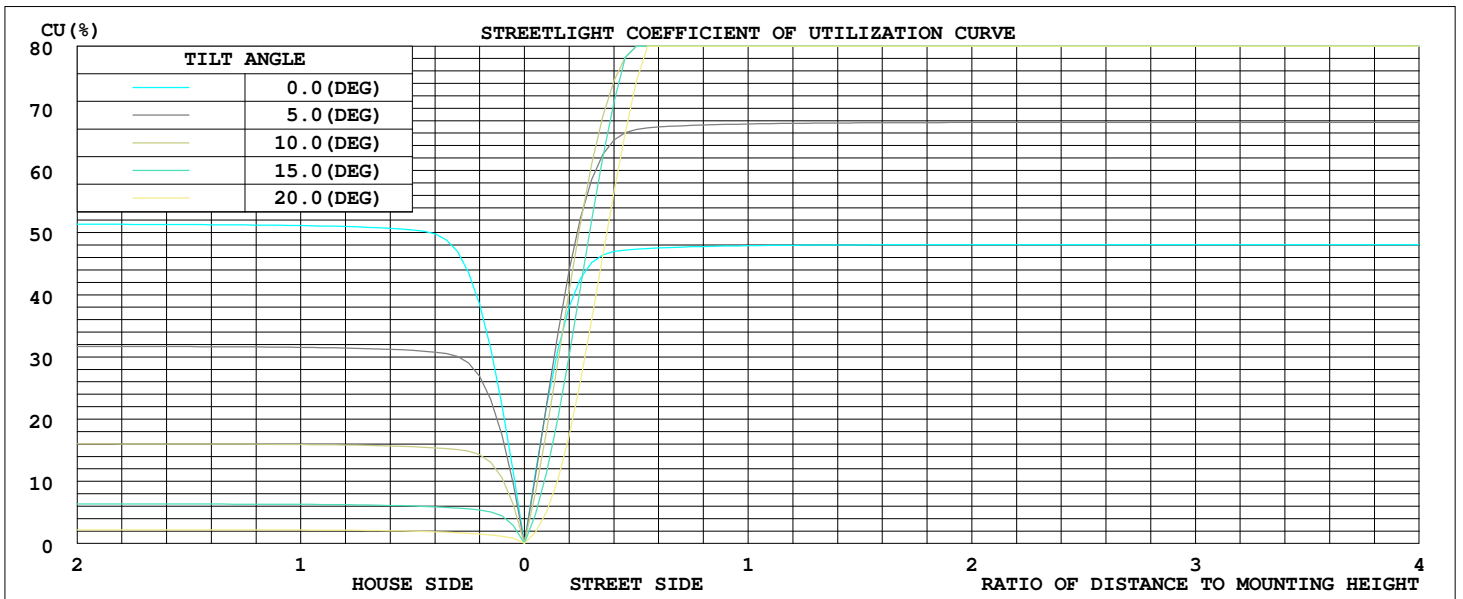
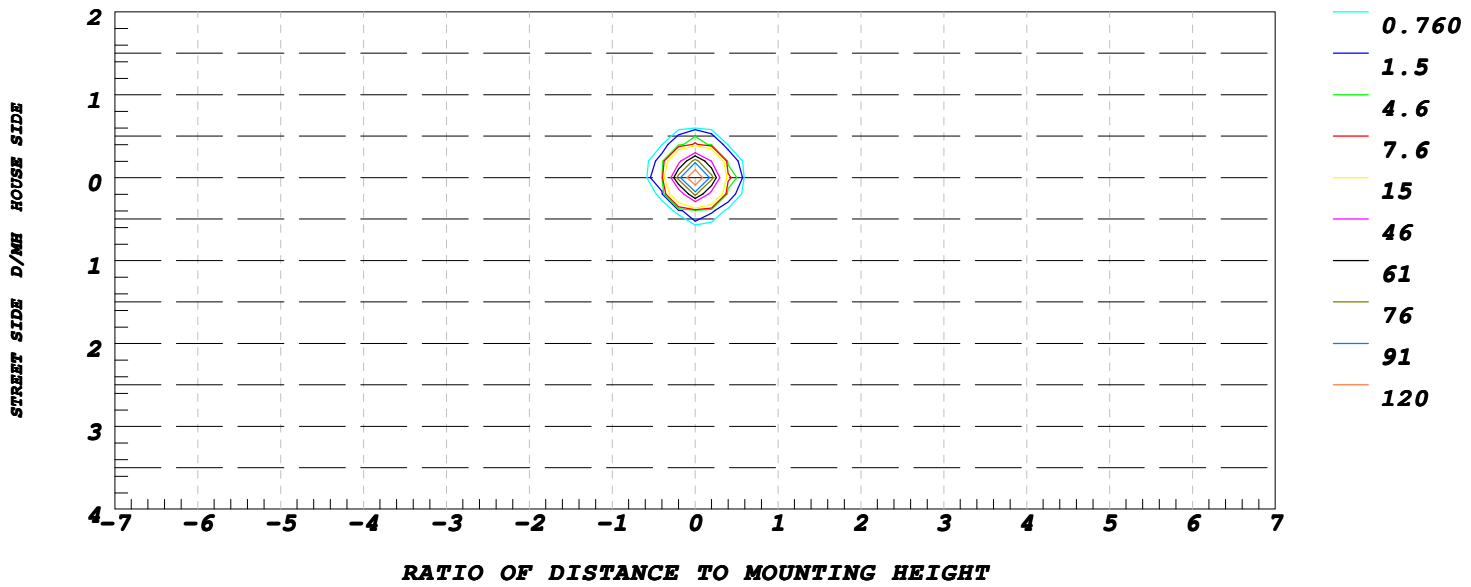
Test Set: 5.0 deg/s C-Gamma (TYPE C)  
 Humidity: 65.0%  
 Test Distance: 10.000 m  
 Remarks:

ISOLUX DIAGRAM

Report number: 0304-23

MANUFACTURER: BRIGHT		
Address:		
NAME: AMOSTRA	TYPE: SPOT DE TRILHO 24°	WEIGHT:
SPECIFICATION: LED 30W 3000K	DIMENSION:	SERIAL No.: ---

ILLUMINANCE AT MH=10 m, Enadir = 152.46 lx



Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:CRISTIANE SANTOS  
 Test Date:09-08-2023

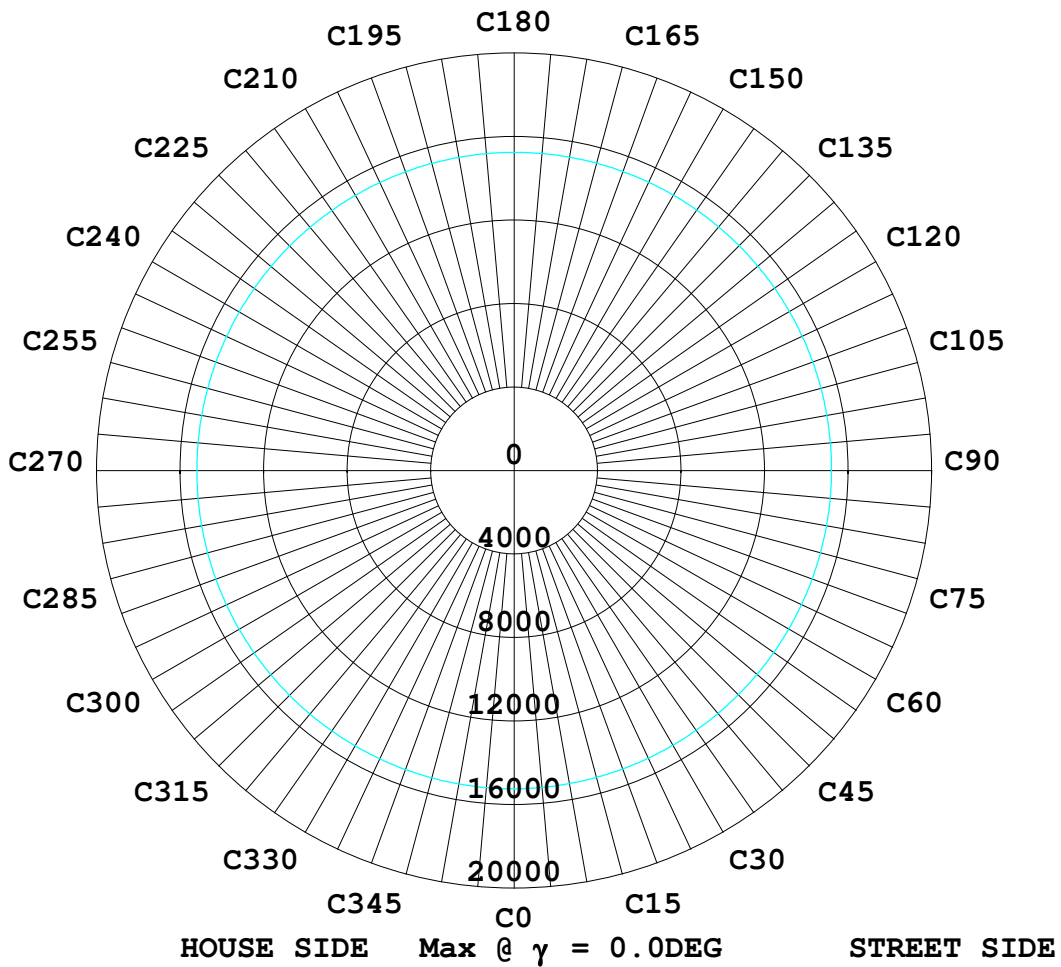
Test Set: 5.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:10.000 m  
 Remarks:



ISOCANDELA DIAGRAM

Report number: 0304-23

MANUFACTURER: BRIGHT		
Address:		
NAME: AMOSTRA	TYPE: SPOT DE TRILHO 24°	WEIGHT:
SPECIFICATION: LED 30W 3000K	DIMENSION:	SERIAL No.: ---



Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:CRISTIANE SANTOS  
 Test Date:09-08-2023

Test Set: 5.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:10.000 m  
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Report number: 0304-23

MANUFACTURER: BRIGHT		
Address:		
NAME: AMOSTRA	TYPE: SPOT DE TRILHO 24°	WEIGHT:
SPECIFICATION: LED 30W 3000K	DIMENSION:	SERIAL No.: ---

UNIT: ;Á10cd

C (DEG)	0	90	180	270
0.0	1525	1520	1525	1520
5.0	1412	1411	1350	1353
10.0	1011	993	987	1000
15.0	471	446	557	558
20.0	100	93.5	215	187
25.0	15.8	12.3	27.9	28.7
30.0	7.68	6.31	7.85	10.3
35.0	5.11	4.48	4.56	5.87
40.0	3.94	3.48	3.14	4.21
45.0	2.82	2.37	2.24	3.01
50.0	1.99	1.56	1.50	2.06
55.0	1.44	1.08	1.04	1.50
60.0	0.99	0.63	0.65	1.02
65.0	0.68	0.23	0.29	0.64
70.0	0.29	0.02	0.07	0.27
75.0	0.21	0.00	0.06	0.20
80.0	0.17	0.00	0.06	0.17
85.0	0.14	0.00	0.06	0.14
90.0	0.11	0.00	0.09	0.12

Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:CRISTIANE SANTOS  
 Test Date:09-08-2023

Test Set: 5.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:10.000 m  
 Remarks: