

LUMINAIRE PHOTOMETRIC TEST REPORT

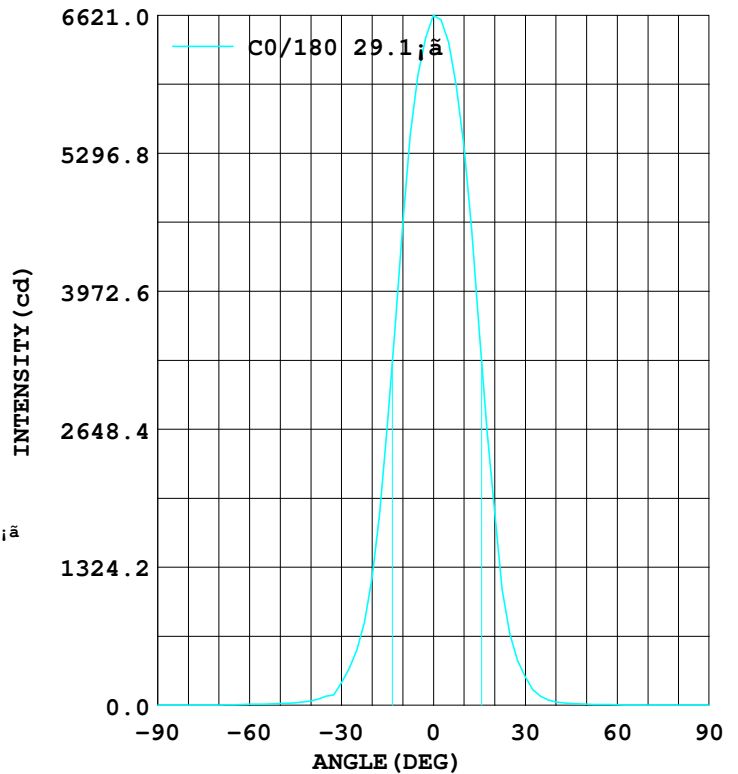
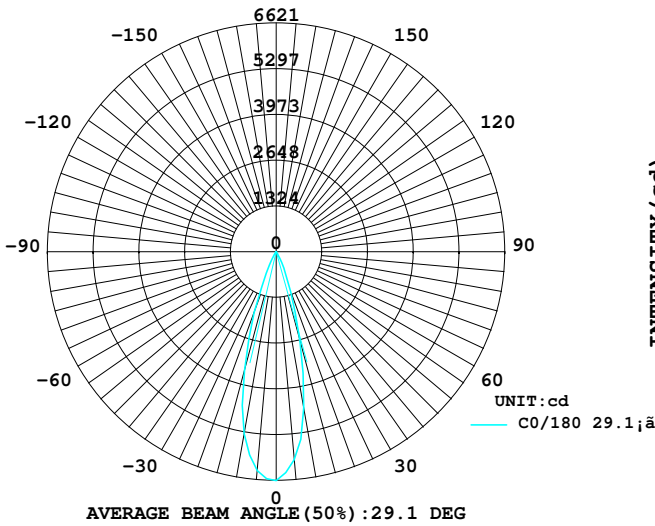
Report number: 0306-23

MANUFACTURER: BRIGHT		
Address:		
NAME: AMOSTRA	TYPE: SPOT TRACK 38°	WEIGHT:
SPECIFICATION: LED 20W 3000K	DIMENSION:	SERIAL No.: ---

DATA OF LAMP		Imax (cd)	6625	S/MH (C0/180)	0.44
MODEL	LED	EFFICIENCY (%)	100.0	S/MH (C90/270)	0.44
NOMINAL POWER (W)	20	TOTAL FLUX (lm)	1800.9	Voltage (V)	220.8
RATED VOLTAGE (V)	220	EFFICIENCY (lm/W)	85.8	Current (A)	0.103
NOMINAL FLUX (lm)	1800.9	$\eta$ up (%)	0.0	Power (W)	20.99
LAMPS QUANTITY	1	$\eta$ down (%)	100.0	Power Factor (PF)	0.916
TEST VOLTAGE (V)	220.8	Effective Flux (lm)	1800.9	EEl	0.190

LUMINOUS INTENSITY DISTRIBUTION

LUMINOUS INTENSITY DISTRIBUTION



Test System: HOPOO HPG1800  
 Temperature: 25.3 DEG  
 Operators: CRISTIANE SANTOS  
 Test Date: 10-08-2023

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

## Color Temperature Data List

Report number: 0306-23

MANUFACTURER: BRIGHT		
Address:		
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SPECIFICATION: LED 20W 3000K	DIMENSION:	SERIAL No.: ---

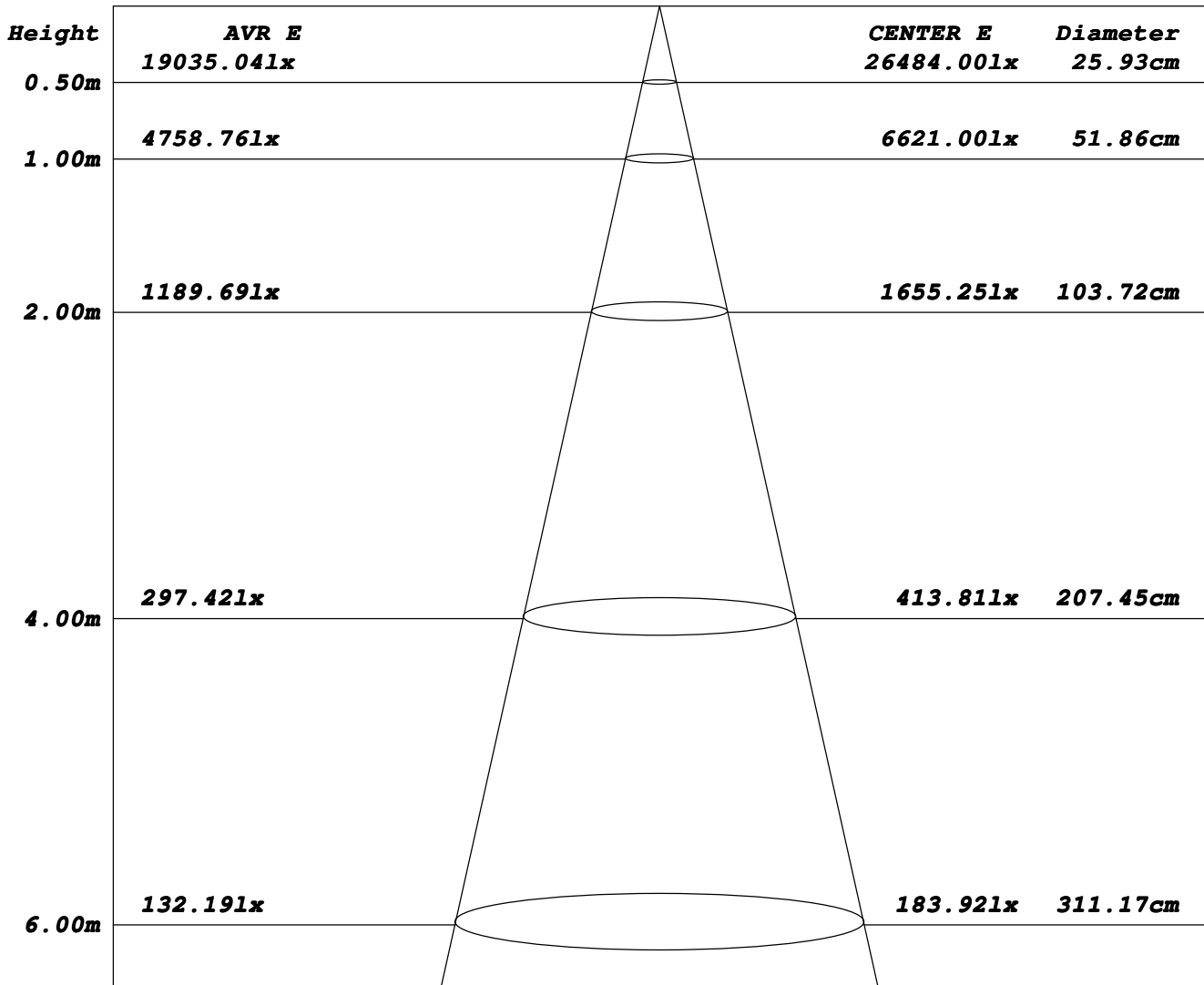
**Test System:HOPOO HPG1800**  
**Temperature:25.3DEG**  
**Operators:CRISTIANE SANTOS**  
**Test Date:10-08-2023**

**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: 0306-23

MANUFACTURER: BRIGHT		
Address:		
NAME: AMOSTRA	TYPE: SPOT TRACK 38°	WEIGHT:
SPECIFICATION: LED 20W 3000K	DIMENSION:	SERIAL No.: ---



Angle: 29.1deg

Test System: HOPOO HPG1800  
 Temperature: 25.3DEG  
 Operators: CRISTIANE SANTOS  
 Test Date: 10-08-2023

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 Remarks:

ZONAL FLUX DIAGRAM

Report number: 0306-23

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NAME: AMOSTRA	TYPE: SPOT TRACK 38°	WEIGHT:
SPECIFICATION: LED 20W 3000K	DIMENSION:	SERIAL No.: ---

$\gamma$	C0	C90	C180	C270					$\gamma$	zone	total
5.0	6049	6074	6358	6297					0- 5	153.0	153.0
10.0	4594	4488	5357	5357					5- 10	398.6	551.7
15.0	2673	2556	3571	3675					10- 15	475.2	1027
20.0	1230	1123	1878	1800					15- 20	372.1	1399
25.0	529.4	531.7	686.3	654.5					20- 25	207.0	1606
30.0	217.8	243.0	274.5	237.5					25- 30	101.1	1707
35.0	88.80	86.79	86.40	87.30					30- 35	43.33	1751
40.0	41.90	35.60	32.10	36.19					35- 40	19.41	1770
45.0	24.29	18.50	16.79	20.20					40- 45	10.01	1780
50.0	16.00	11.40	10.50	13.20					45- 50	6.494	1787
55.0	11.59	7.800	7.300	9.500					50- 55	4.665	1791
60.0	9.900	7.300	5.900	6.700					55- 60	3.770	1795
65.0	4.700	2.100	1.200	3.200					60- 65	2.576	1798
70.0	2.700	0.300	0.800	2.500					65- 70	1.014	1799
75.0	2.100	0.100	0.700	2.000					70- 75	0.725	1799
80.0	1.700	0	0.600	1.700					75- 80	0.585	1800
85.0	1.500	0	0.600	1.400					80- 85	0.506	1800
90.0	1.200	0	1.000	1.200					85- 90	0.469	1801
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		
<b>DEG</b>	<b>LUMINOUS INTENSITY:cd</b>									<b>UNIT:lm</b>	

Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
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 Test Date:10-08-2023

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

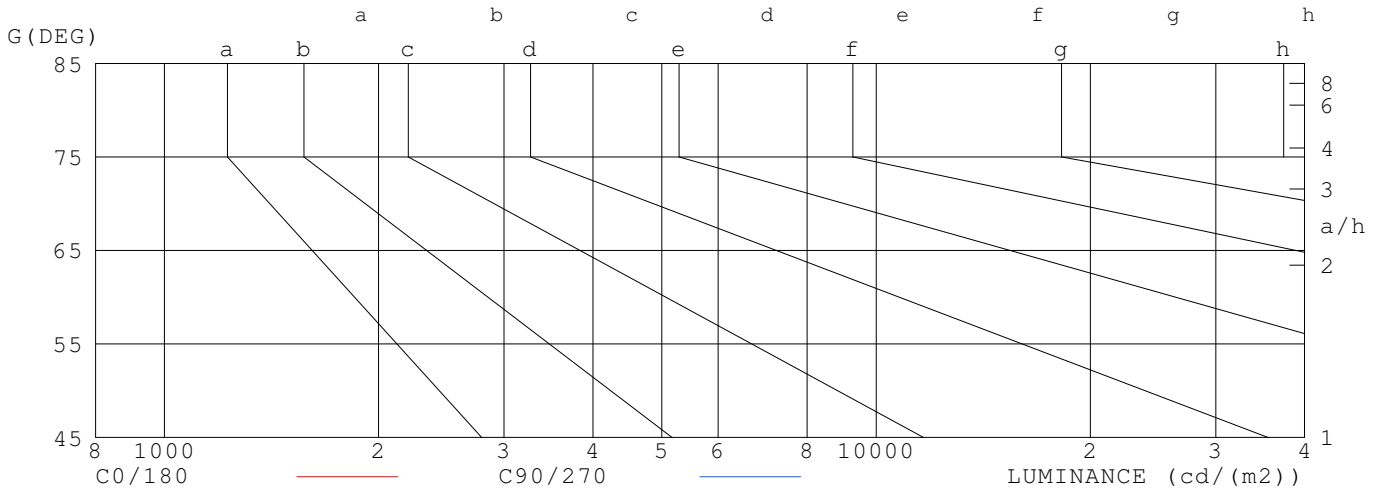
LUMINANCE LIMITATION CURVES

Report number: 0306-23

MANUFACTURER: BRIGHT		
Address:		
NAME: AMOSTRA	TYPE: SPOT TRACK 38°	WEIGHT:
SPECIFICATION: LED 20W 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	172	0
80	98	0
75	81	4
70	79	9
65	111	50
60	198	146
55	202	136
50	249	177
45	344	262

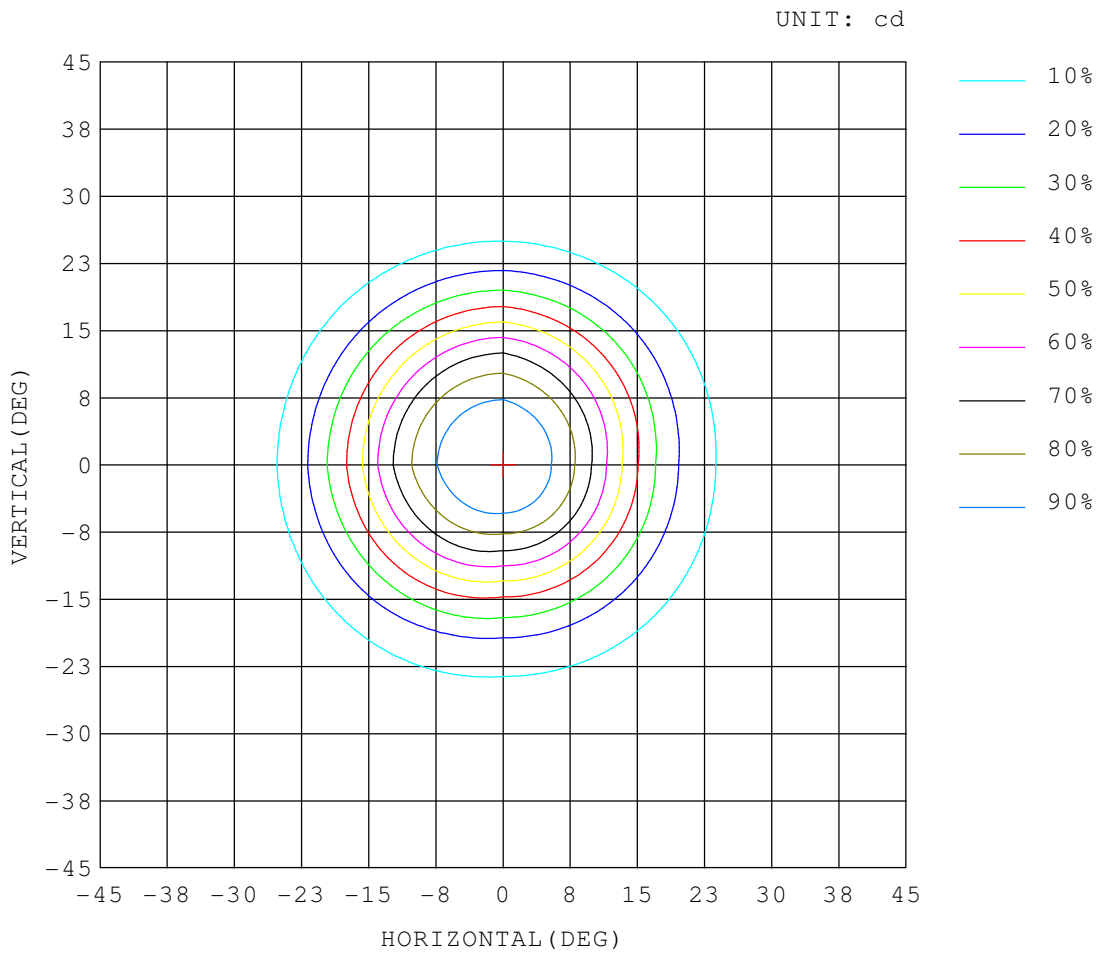
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ISOCANDELA DIAGRAM

Report number: 0306-23

MANUFACTURER: BRIGHT		
Address:		
NAME: AMOSTRA	TYPE: SPOT TRACK 38°	WEIGHT:
SPECIFICATION: LED 20W 3000K	DIMENSION:	SERIAL No.: ---



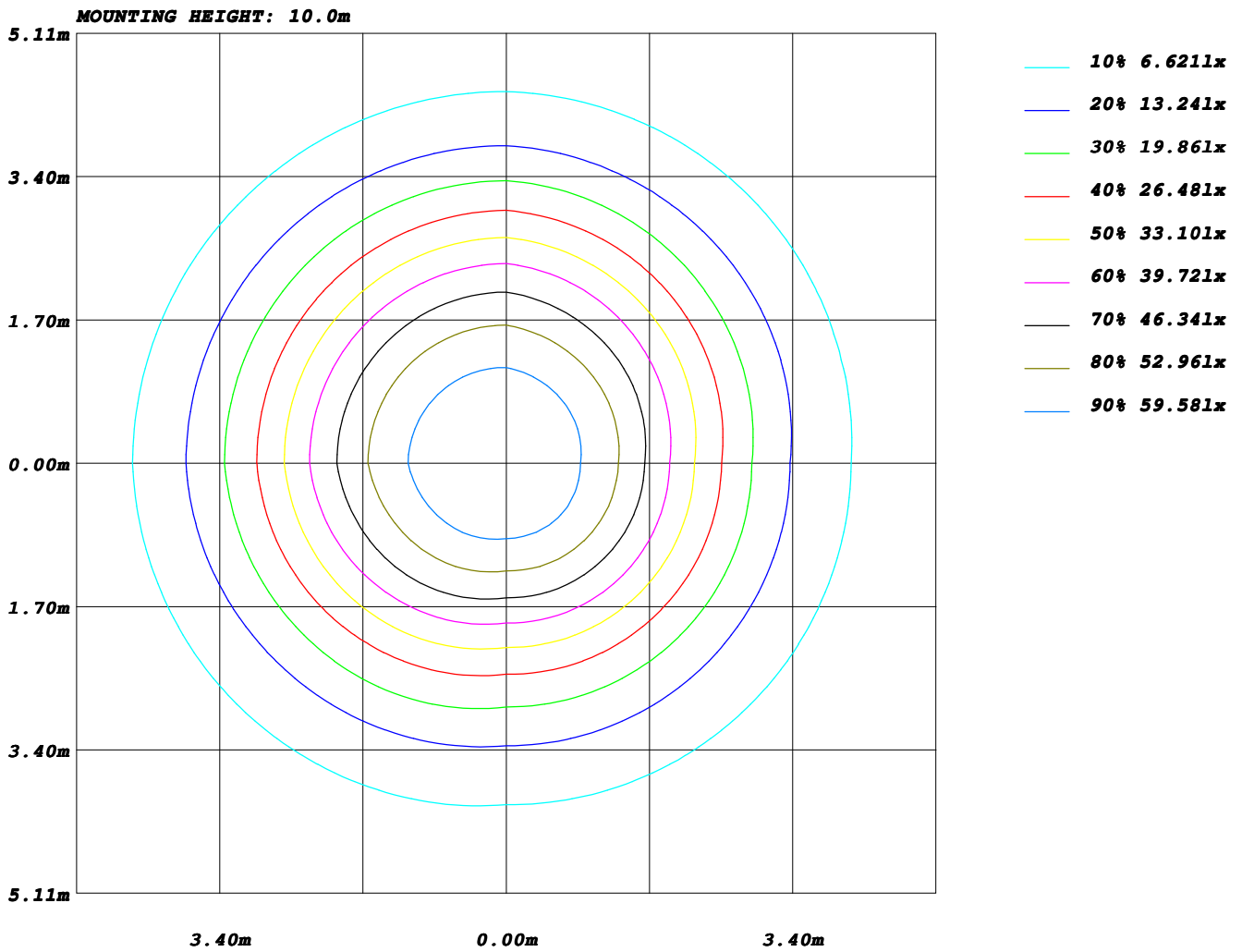
**Test System:HOPOO HPG1800**  
**Temperature:25.3DEG**  
**Operators:CRISTIANE SANTOS**  
**Test Date:10-08-2023**

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

ISOLUX DIAGRAM

Report number: 0306-23

MANUFACTURER: BRIGHT		
Address:		
NAME: AMOSTRA	TYPE: SPOT TRACK 38°	WEIGHT:
SPECIFICATION: LED 20W 3000K	DIMENSION:	SERIAL No.: ---



Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
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 Remarks:

AREA LUMINOUS FLUX

Report number: 0306-23

MANUFACTURER: BRIGHT		
Address:		
NAME: AMOSTRA	TYPE: SPOT TRACK 38°	WEIGHT:
SPECIFICATION: LED 20W 3000K	DIMENSION:	SERIAL No.: ---

		AREA FLUX DIAGRAM																UNIT:lm		Φ t	Φ a	
VERTICAL (DEG)	45	0.04	0.05	0.07	0.09	0.11	0.14	0.17	0.19	0.20	0.21	0.20	0.18	0.15	0.13	0.11	0.08	0.07	0.05	2.23	2.23	
	40	0.05	0.07	0.09	0.13	0.17	0.24	0.31	0.39	0.43	0.44	0.40	0.33	0.26	0.20	0.15	0.11	0.08	0.06	3.89	3.89	
	35	0.06	0.08	0.12	0.19	0.31	0.50	0.74	0.98	1.11	1.10	0.94	0.72	0.51	0.34	0.22	0.15	0.11	0.08	8.28	8.28	
	30	0.07	0.11	0.18	0.34	0.65	1.18	1.91	2.63	3.10	3.06	2.53	1.78	1.06	0.62	0.37	0.22	0.14	0.09	20.0	20.0	
	25	0.08	0.14	0.28	0.63	1.39	2.71	4.64	6.91	8.54	8.35	6.51	4.27	2.46	1.20	0.59	0.32	0.18	0.11	49.3	49.3	
	20	0.10	0.19	0.44	1.13	2.67	5.61	10.7	16.3	20.0	19.4	15.0	9.31	4.87	2.34	0.95	0.46	0.23	0.13	110	110	
	15	0.11	0.24	0.65	1.84	4.48	10.5	19.6	28.5	33.9	33.0	26.2	16.7	8.45	3.75	1.53	0.58	0.29	0.15	191	191	
		10	0.12	0.30	0.88	2.53	6.57	15.7	27.9	38.6	43.9	43.0	35.6	23.5	12.0	5.13	2.10	0.71	0.34	0.17	259	259
		5	0.13	0.33	1.03	2.99	8.12	18.9	32.7	43.6	48.7	47.8	40.3	26.8	13.7	5.87	2.41	0.80	0.37	0.18	295	295
		0	0.13	0.33	1.03	2.97	7.95	18.3	31.7	42.7	48.2	47.2	39.4	25.8	13.2	5.71	2.39	0.80	0.37	0.18	289	289
		-5	0.12	0.30	0.88	2.51	6.24	14.4	25.2	35.1	40.1	39.3	32.1	20.8	10.7	4.79	2.08	0.71	0.34	0.17	236	236
		-10	0.11	0.24	0.65	1.83	4.24	9.18	16.5	23.2	26.6	25.8	20.9	13.5	7.12	3.51	1.53	0.58	0.29	0.15	156	156
		-15	0.10	0.19	0.44	1.14	2.61	4.99	8.58	12.3	14.1	13.6	10.9	7.19	4.25	2.27	0.95	0.46	0.23	0.13	84.5	84.5
		-20	0.08	0.14	0.28	0.63	1.40	2.62	4.08	5.46	6.12	5.93	5.06	3.71	2.37	1.21	0.59	0.32	0.17	0.11	40.3	40.3
		-25	0.07	0.10	0.18	0.34	0.65	1.19	1.90	2.52	2.84	2.80	2.42	1.77	1.07	0.62	0.37	0.21	0.13	0.09	19.3	19.3
		-30	0.05	0.08	0.12	0.19	0.31	0.50	0.74	0.98	1.13	1.11	0.95	0.72	0.51	0.34	0.22	0.15	0.10	0.07	8.27	8.27
	-35	0.04	0.06	0.09	0.12	0.17	0.23	0.31	0.39	0.43	0.43	0.39	0.32	0.25	0.19	0.14	0.11	0.08	0.06	3.81	3.81	
	-40	0.04	0.05	0.06	0.08	0.10	0.13	0.16	0.18	0.19	0.20	0.19	0.17	0.14	0.12	0.10	0.08	0.06	0.05	2.10	2.10	
	-45																					
		-45	-40	-35	-30	-25	-20	-15	-10	HORIZONTAL (DEG)	10	15	20	25	30	35	40	45				
Φ t	1.51	3.00	7.47	19.7	48.1	107	188	261	300	293	240	158	83.2	38.3	16.8	6.85	3.57	2.03	1801			
Φ a	1.51	3.00	7.47	19.7	48.1	107	188	261	300	293	240	158	83.2	38.3	16.8	6.85	3.57	2.03			1801	

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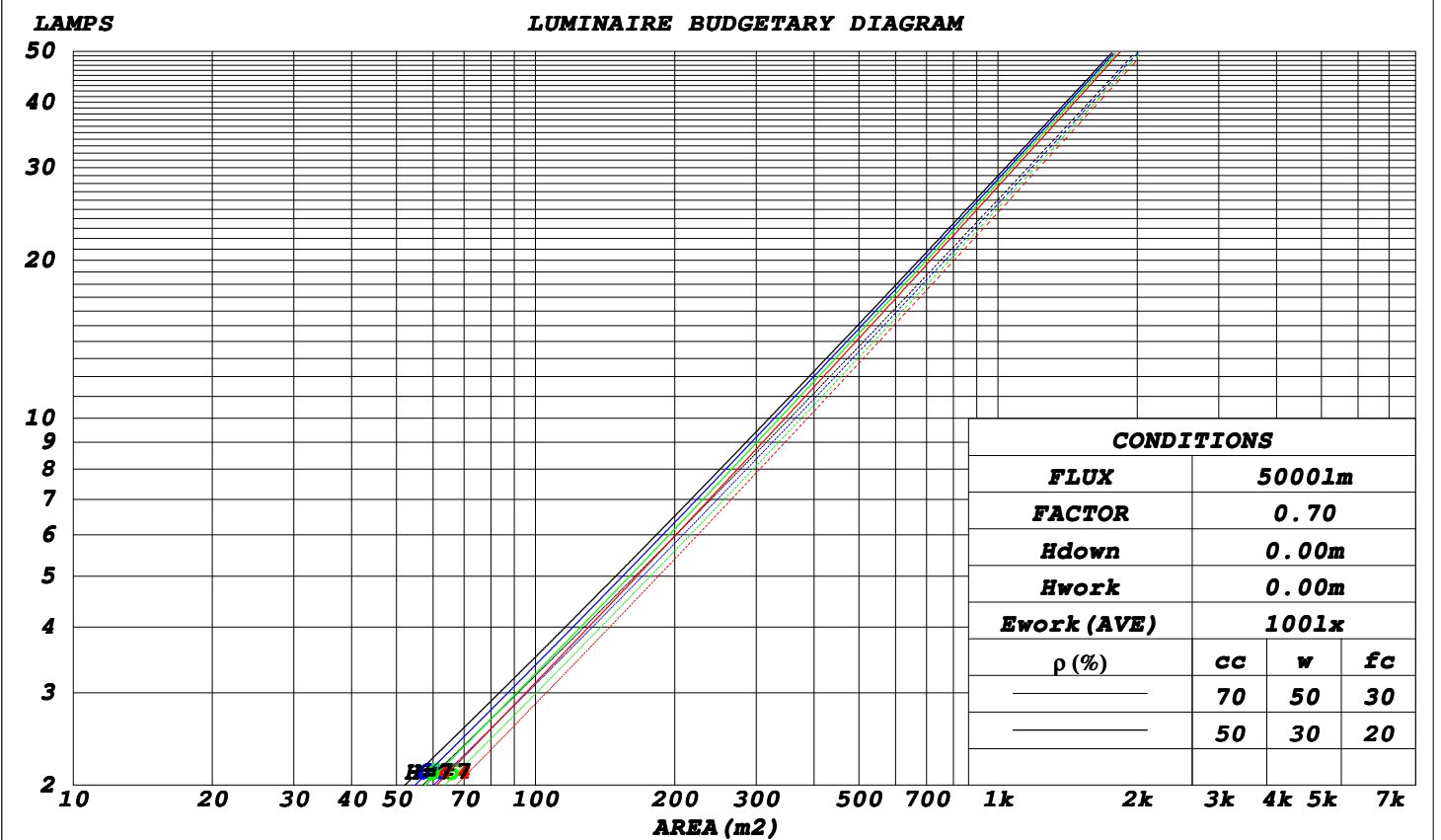


CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Report number: 0306-23

MANUFACTURER: BRIGHT														
Address:														
NAME: AMOSTRA					TYPE: SPOT TRACK 38°					WEIGHT:				
SPECIFICATION: LED 20W 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	1.11	1.09	1.11	1.09	1.07	1.07	1.05	1.04	1.03	1.02	1.01	.00	.99	.98	.96
2.0	1.07	1.04	1.02	1.06	1.03	1.00	1.02	1.00	.98	.00	.98	.96	.97	.95	.94	.93
3.0	1.02	.99	.96	1.01	.98	.95	.99	.96	.93	.96	.94	.92	.94	.92	.91	.89
4.0	.98	.94	.91	.97	.93	.90	.95	.92	.89	.93	.91	.88	.92	.89	.87	.86
5.0	.94	.90	.87	.94	.90	.87	.92	.89	.86	.90	.87	.85	.89	.86	.84	.83
6.0	.91	.87	.84	.90	.86	.83	.89	.85	.83	.88	.85	.82	.86	.84	.82	.81
7.0	.88	.83	.80	.87	.83	.80	.86	.82	.80	.85	.82	.79	.84	.81	.79	.78
8.0	.85	.81	.78	.84	.80	.78	.83	.80	.77	.83	.79	.77	.82	.79	.77	.76
9.0	.82	.78	.75	.82	.78	.75	.81	.77	.75	.80	.77	.75	.80	.77	.74	.73
10.0	.80	.76	.73	.79	.75	.73	.79	.75	.73	.78	.75	.72	.77	.74	.72	.71



Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:CRISTIANE SANTOS  
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Test Set: 5.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
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 Remarks:

WEC AND CCEC

Report number: 0306-23

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SPECIFICATION: LED 20W 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						Wall Exitance Coefficients (WEC)									
0.0																
1.0	.141	.080	.025	.134	.077	.024	.122	.070	.022	.111	.064	.020	.100	.058	.019	
2.0	.131	.072	.022	.126	.069	.021	.115	.064	.020	.106	.059	.019	.097	.055	.017	
3.0	.122	.065	.019	.118	.063	.019	.109	.059	.018	.101	.055	.017	.094	.052	.016	
4.0	.115	.060	.018	.111	.058	.017	.104	.055	.016	.097	.052	.016	.091	.049	.015	
5.0	.108	.055	.016	.105	.054	.016	.099	.051	.015	.093	.049	.015	.088	.047	.014	
6.0	.103	.051	.015	.100	.050	.015	.094	.048	.014	.089	.046	.014	.085	.045	.013	
7.0	.098	.048	.014	.095	.047	.014	.090	.046	.013	.086	.044	.013	.082	.043	.013	
8.0	.093	.045	.013	.091	.045	.013	.087	.043	.012	.083	.042	.012	.079	.041	.012	
9.0	.089	.043	.012	.087	.042	.012	.084	.041	.012	.080	.040	.012	.077	.039	.011	
10.0	.085	.041	.011	.084	.040	.011	.081	.039	.011	.078	.038	.011	.075	.038	.011	

$\rho_{cc}$	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						Ceiling Cavity Exitance Coefficients (CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.169	.158	.148	.144	.135	.127	.099	.093	.088	.057	.054	.051	.018	.017	.017	
2.0	.151	.133	.117	.129	.114	.102	.089	.079	.071	.051	.046	.042	.016	.015	.014	
3.0	.136	.113	.095	.117	.098	.083	.080	.068	.058	.046	.040	.034	.015	.013	.011	
4.0	.124	.098	.078	.106	.085	.068	.073	.059	.048	.042	.035	.028	.014	.011	.009	
5.0	.113	.086	.065	.097	.074	.057	.067	.052	.040	.039	.030	.024	.013	.010	.008	
6.0	.105	.076	.055	.090	.066	.048	.062	.046	.034	.036	.027	.020	.012	.009	.007	
7.0	.097	.068	.047	.084	.059	.041	.058	.041	.029	.034	.024	.017	.011	.008	.006	
8.0	.091	.061	.041	.078	.053	.035	.054	.037	.025	.031	.022	.015	.010	.007	.005	
9.0	.085	.055	.035	.073	.048	.031	.051	.034	.022	.030	.020	.013	.010	.007	.004	
10.0	.080	.051	.031	.069	.044	.027	.048	.031	.019	.028	.018	.011	.009	.006	.004	

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 Test Date:10-08-2023

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

Uncorrected UGR Table

Report number: 0306-23

MANUFACTURER: BRIGHT										
Address:										
NAME: AMOSTRA					TYPE: SPOT TRACK 38°			WEIGHT:		
SPECIFICATION: LED 20W 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>-1.3</b>	<b>-0.6</b>	<b>-1.1</b>	<b>-0.5</b>	<b>-0.3</b>	<b>-1.9</b>	<b>-1.2</b>	<b>-1.7</b>	<b>-1.1</b>	<b>-0.9</b>
<b>3H</b>	<b>-1.3</b>	<b>-0.7</b>	<b>-1.1</b>	<b>-0.5</b>	<b>-0.3</b>	<b>-2.0</b>	<b>-1.4</b>	<b>-1.8</b>	<b>-1.2</b>	<b>-1.0</b>
<b>4H</b>	<b>-1.3</b>	<b>-0.7</b>	<b>-1.0</b>	<b>-0.5</b>	<b>-0.3</b>	<b>-2.1</b>	<b>-1.5</b>	<b>-1.8</b>	<b>-1.3</b>	<b>-1.1</b>
<b>6H</b>	<b>-1.2</b>	<b>-0.7</b>	<b>-0.9</b>	<b>-0.4</b>	<b>-0.2</b>	<b>-2.2</b>	<b>-1.6</b>	<b>-1.9</b>	<b>-1.4</b>	<b>-1.2</b>
<b>8H</b>	<b>-1.2</b>	<b>-0.6</b>	<b>-0.9</b>	<b>-0.4</b>	<b>-0.1</b>	<b>-2.2</b>	<b>-1.7</b>	<b>-1.9</b>	<b>-1.4</b>	<b>-1.2</b>
<b>12H</b>	<b>-1.1</b>	<b>-0.5</b>	<b>-0.7</b>	<b>-0.3</b>	<b>-0.0</b>	<b>-2.3</b>	<b>-1.7</b>	<b>-2.0</b>	<b>-1.5</b>	<b>-1.2</b>
<b>4H 2H</b>	<b>-1.4</b>	<b>-0.8</b>	<b>-1.1</b>	<b>-0.6</b>	<b>-0.3</b>	<b>-1.9</b>	<b>-1.3</b>	<b>-1.6</b>	<b>-1.1</b>	<b>-0.9</b>
<b>3H</b>	<b>-1.3</b>	<b>-0.8</b>	<b>-1.0</b>	<b>-0.6</b>	<b>-0.3</b>	<b>-2.0</b>	<b>-1.5</b>	<b>-1.7</b>	<b>-1.2</b>	<b>-1.0</b>
<b>4H</b>	<b>-1.3</b>	<b>-0.8</b>	<b>-1.0</b>	<b>-0.5</b>	<b>-0.2</b>	<b>-2.1</b>	<b>-1.6</b>	<b>-1.8</b>	<b>-1.3</b>	<b>-1.0</b>
<b>6H</b>	<b>-1.2</b>	<b>-0.8</b>	<b>-0.8</b>	<b>-0.4</b>	<b>-0.1</b>	<b>-2.2</b>	<b>-1.8</b>	<b>-1.8</b>	<b>-1.5</b>	<b>-1.1</b>
<b>8H</b>	<b>-1.1</b>	<b>-0.7</b>	<b>-0.7</b>	<b>-0.3</b>	<b>0.0</b>	<b>-2.3</b>	<b>-1.9</b>	<b>-1.9</b>	<b>-1.5</b>	<b>-1.2</b>
<b>12H</b>	<b>-0.9</b>	<b>-0.5</b>	<b>-0.5</b>	<b>-0.1</b>	<b>0.2</b>	<b>-2.3</b>	<b>-2.0</b>	<b>-1.9</b>	<b>-1.6</b>	<b>-1.2</b>
<b>8H 4H</b>	<b>-1.4</b>	<b>-1.0</b>	<b>-1.0</b>	<b>-0.7</b>	<b>-0.3</b>	<b>-2.2</b>	<b>-1.8</b>	<b>-1.8</b>	<b>-1.5</b>	<b>-1.1</b>
<b>6H</b>	<b>-1.3</b>	<b>-0.9</b>	<b>-0.8</b>	<b>-0.5</b>	<b>-0.1</b>	<b>-2.3</b>	<b>-2.0</b>	<b>-1.9</b>	<b>-1.6</b>	<b>-1.2</b>
<b>8H</b>	<b>-1.1</b>	<b>-0.8</b>	<b>-0.6</b>	<b>-0.4</b>	<b>0.1</b>	<b>-2.4</b>	<b>-2.1</b>	<b>-1.9</b>	<b>-1.7</b>	<b>-1.2</b>
<b>12H</b>	<b>-0.8</b>	<b>-0.5</b>	<b>-0.3</b>	<b>-0.1</b>	<b>0.4</b>	<b>-2.4</b>	<b>-2.2</b>	<b>-2.0</b>	<b>-1.7</b>	<b>-1.3</b>
<b>12H 4H</b>	<b>-1.5</b>	<b>-1.1</b>	<b>-1.1</b>	<b>-0.7</b>	<b>-0.3</b>	<b>-2.3</b>	<b>-1.9</b>	<b>-1.9</b>	<b>-1.5</b>	<b>-1.2</b>
<b>6H</b>	<b>-1.3</b>	<b>-1.0</b>	<b>-0.9</b>	<b>-0.6</b>	<b>-0.2</b>	<b>-2.3</b>	<b>-2.1</b>	<b>-1.9</b>	<b>-1.6</b>	<b>-1.2</b>
<b>8H</b>	<b>-1.1</b>	<b>-0.9</b>	<b>-0.6</b>	<b>-0.4</b>	<b>0.0</b>	<b>-2.4</b>	<b>-2.1</b>	<b>-1.9</b>	<b>-1.7</b>	<b>-1.2</b>
<b>Variations with the observer position at spacings:</b>										
<b>S = 1.0H</b>	<b>+ 1.8 / - 2.0</b>					<b>+ 2.3 / - 3.4</b>				
<b>1.5H</b>	<b>+ 3.3 / - 1.7</b>					<b>+ 4.1 / - 2.8</b>				
<b>2.0H</b>	<b>+ 1.7 / - 2.2</b>					<b>+ 1.4 / - 3.4</b>				

CIE Pub.117 Corrected 1801 lm Total Lamp Luminous Flux. (8log(F/F0) = 2.0)

Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:CRISTIANE SANTOS  
 Test Date:10-08-2023

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

UTILIZATION FACTORS TABLE

Report number: 0306-23

MANUFACTURER: BRIGHT		
Address:		
NAME: AMOSTRA	TYPE: SPOT TRACK 38°	WEIGHT:
SPECIFICATION: LED 20W 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	81	90	85	81	89	84	81	78
<b>0.80</b>	97	92	89	97	92	89	96	91	88	85
<b>1.00</b>	101	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>	107	103	100	106	102	100	104	101	98	94
<b>2.00</b>	110	106	103	108	105	102	106	103	101	96
<b>2.50</b>	111	108	105	110	106	104	107	104	102	96
<b>3.00</b>	113	109	107	111	108	106	107	105	104	97
<b>4.00</b>	114	112	110	112	110	108	109	107	106	99
<b>5.00</b>	116	114	112	113	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>			

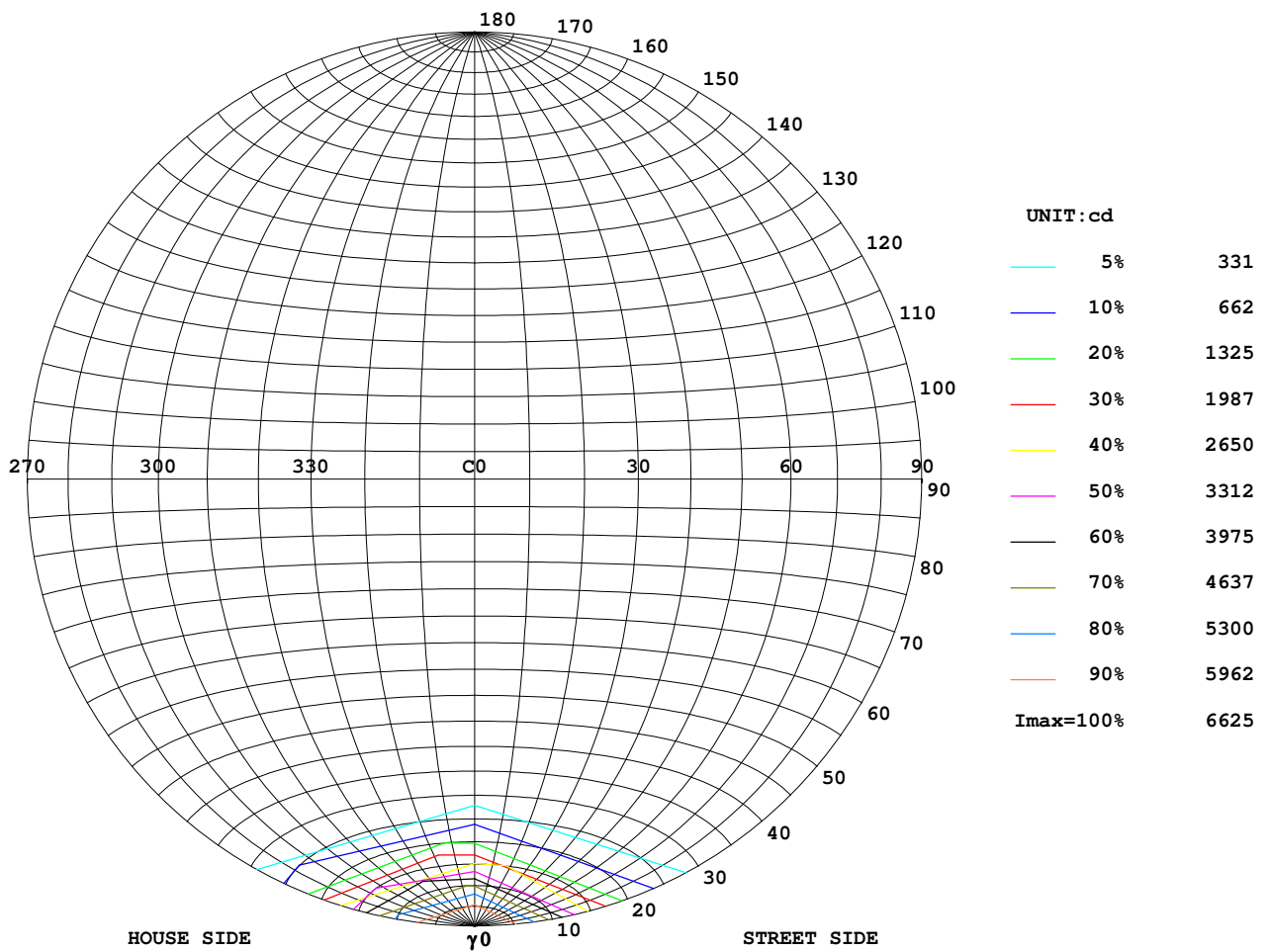
Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:CRISTIANE SANTOS  
 Test Date:10-08-2023

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

ISOCANDELA DIAGRAM

Report number: 0306-23

MANUFACTURER: BRIGHT		
Address:		
NAME: AMOSTRA	TYPE: SPOT TRACK 38°	WEIGHT:
SPECIFICATION: LED 20W 3000K	DIMENSION:	SERIAL No.: ---



Test System: HOPOO HPG1800  
 Temperature: 25.3 DEG  
 Operators: CRISTIANE SANTOS  
 Test Date: 10-08-2023

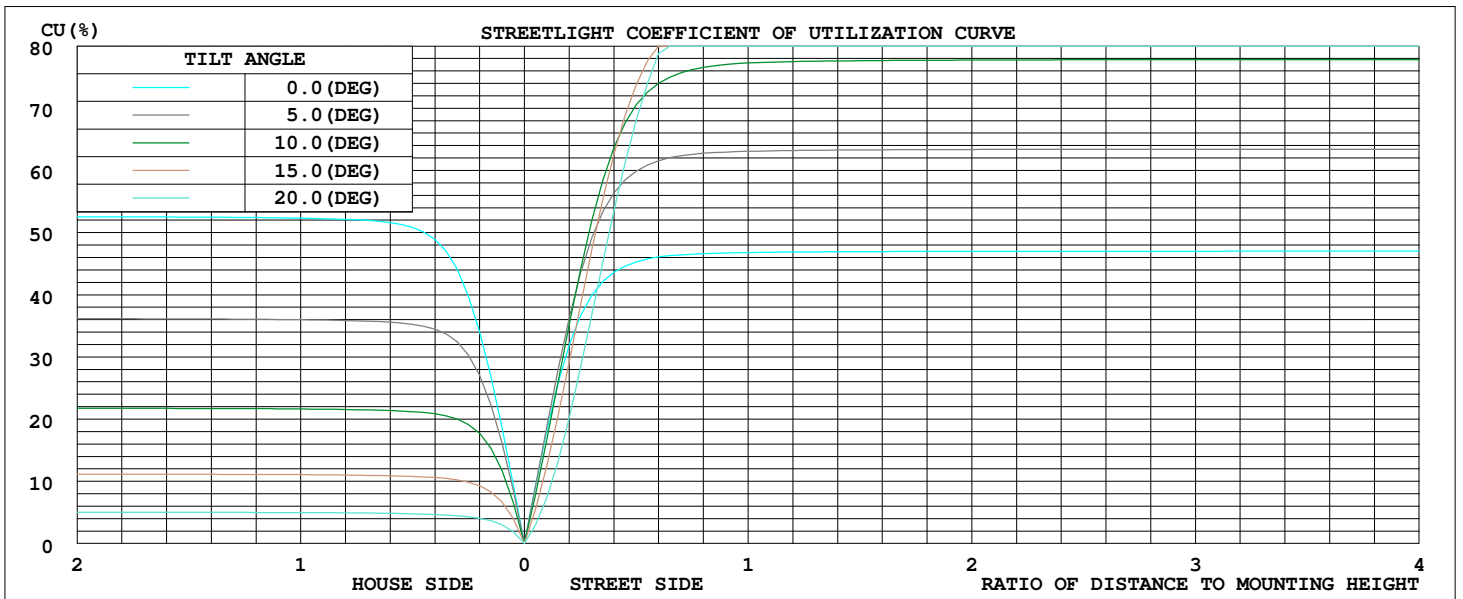
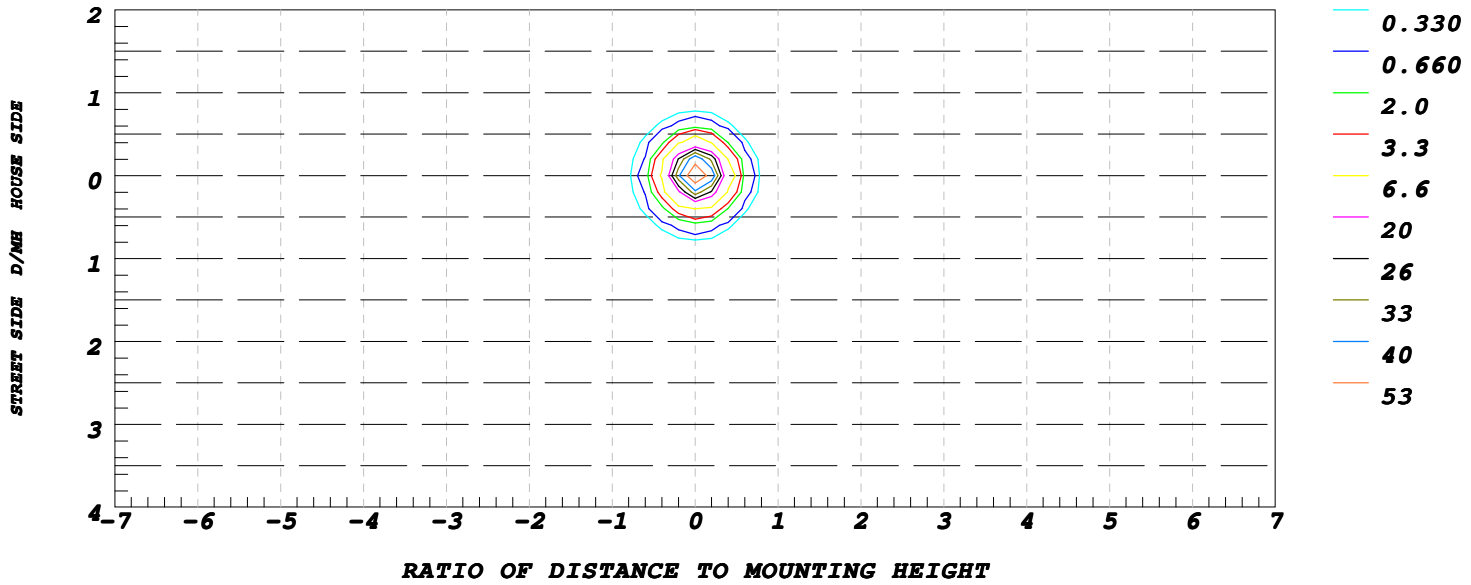
Test Set: 5.0 deg/s C-Gamma (TYPE C)  
 Humidity: 65.0%  
 Test Distance: 10.000 m  
 Remarks:

ISOLUX DIAGRAM

Report number: 0306-23

MANUFACTURER: BRIGHT		
Address:		
NAME: AMOSTRA	TYPE: SPOT TRACK 38°	WEIGHT:
SPECIFICATION: LED 20W 3000K	DIMENSION:	SERIAL No.: ---

ILLUMINANCE AT MH=10 m, Enadir = 66.21 lx



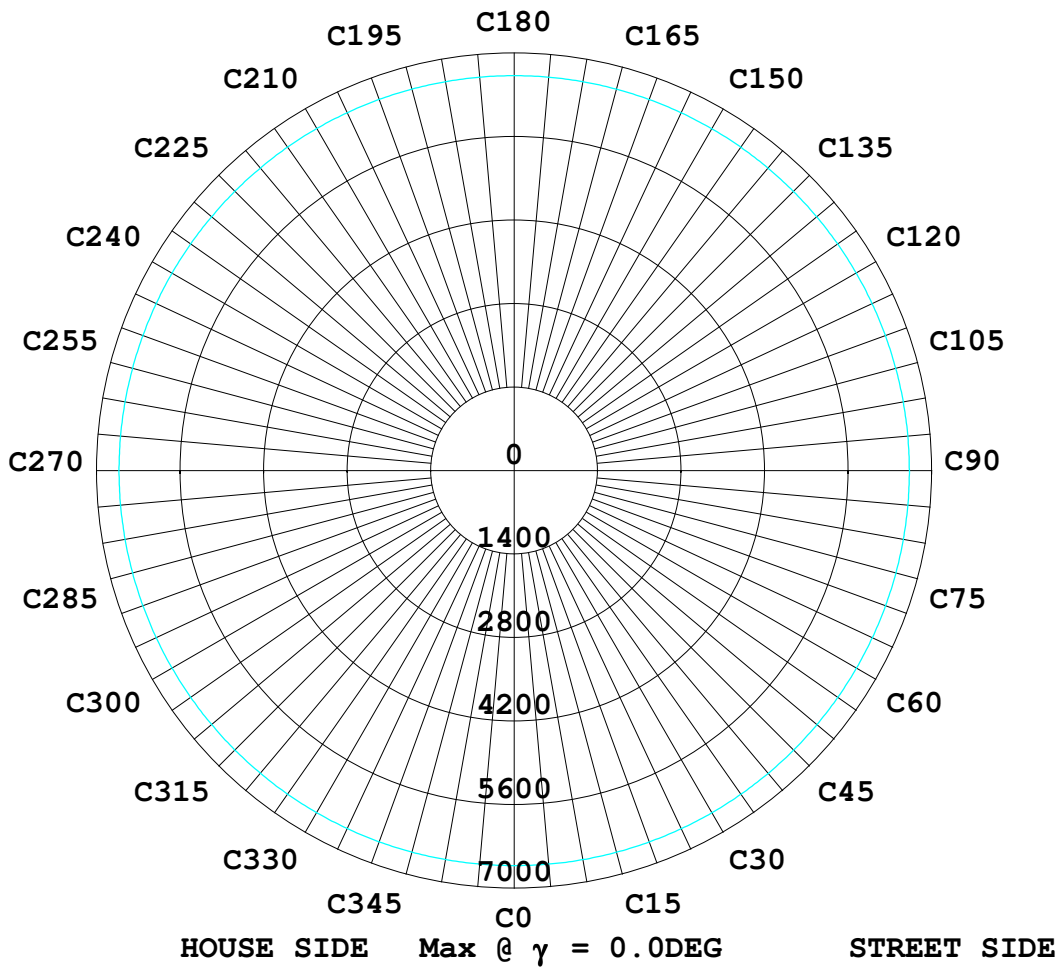
Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:CRISTIANE SANTOS  
 Test Date:10-08-2023

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

ISOCANDELA DIAGRAM

Report number: 0306-23

MANUFACTURER: BRIGHT		
Address:		
NAME: AMOSTRA	TYPE: SPOT TRACK 38°	WEIGHT:
SPECIFICATION: LED 20W 3000K	DIMENSION:	SERIAL No.: ---



Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:CRISTIANE SANTOS  
 Test Date:10-08-2023

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

LUMINOUS DISTRIBUTION INTENSITY DATA

Report number: 0306-23

MANUFACTURER: BRIGHT		
Address:		
NAME: AMOSTRA	TYPE: SPOT TRACK 38°	WEIGHT:
SPECIFICATION: LED 20W 3000K	DIMENSION:	SERIAL No.: ---

UNIT: cd

γ (DEG)	C (DEG)			
	0	90	180	270
0.0	6621	6625	6621	6625
5.0	6049	6074	6358	6297
10.0	4594	4488	5357	5357
15.0	2673	2556	3571	3675
20.0	1230	1123	1878	1800
25.0	529	532	686	655
30.0	218	243	275	238
35.0	88.8	86.7	86.4	87.3
40.0	41.9	35.6	32.1	36.1
45.0	24.2	18.5	16.7	20.2
50.0	16.0	11.4	10.5	13.2
55.0	11.5	7.80	7.30	9.50
60.0	9.90	7.30	5.90	6.70
65.0	4.70	2.10	1.20	3.20
70.0	2.70	0.30	0.80	2.50
75.0	2.10	0.10	0.70	2.00
80.0	1.70	0.00	0.60	1.70
85.0	1.50	0.00	0.60	1.40
90.0	1.20	0.00	1.00	1.20

**Test System:HOPOO HPG1800**  
**Temperature:25.3DEG**  
**Operators:CRISTIANE SANTOS**  
**Test Date:10-08-2023**

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