

LUMINAIRE PHOTOMETRIC TEST REPORT

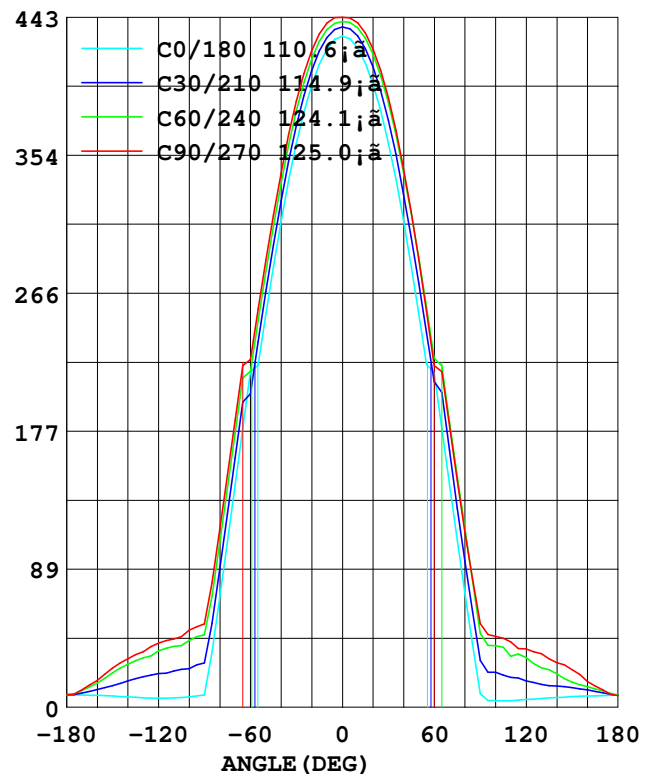
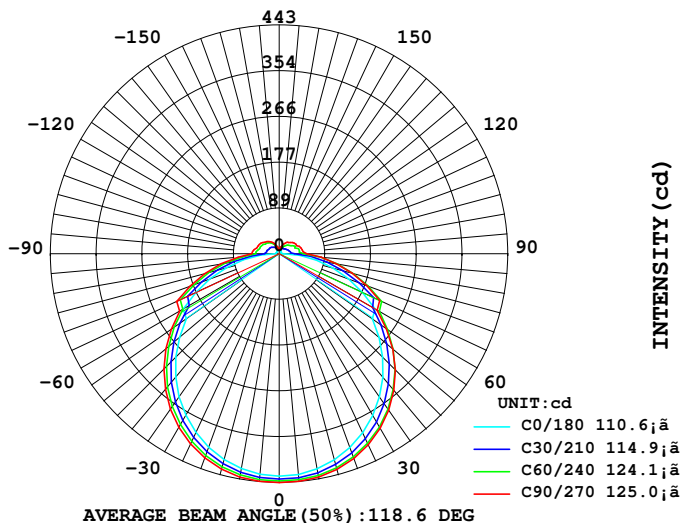
Report number: GO2018-065

MANUFACTURER: BACKLIGHT SRL	Address: Via Volta 5 - Ornago (MB)	
NAME: MARKER_28W/line meter_1000mm	TYPE: wall	WEIGHT:
SPECIFICATION: wall	DIMENSION: 305x50x20	SERIAL No.:

DATA OF LAMP		Imax(cd)	442.6	S/MH (C0/180)	1.25
MODEL	MARKER_28W/line meter_1000mm	EFFICIENCY(%)	100.0	S/MH (C90/270)	1.30
NOMINAL POWER(W)	26.4	TOTAL FLUX(lm)	1582.3	Voltage(V)	24.00
RATED VOLTAGE(V)	24	EFFICIENCY(lm/W)	59.9	Current(A)	1.100
NOMINAL FLUX(lm)	1582.3	η up(%)	9.7	Power(W)	26.40
LAMPS QUANTITY	1	η down(%)	90.3	Power Factor(PF)	1.000
TEST VOLTAGE(V)	24.0	Effective Flux(lm)	1447.3	EEI	0.286

LUMINOUS INTENSITY DISTRIBUTION

LUMINOUS INTENSITY DISTRIBUTION



Test System: LSG-1800
 Temperature: 25.3 DEG
 Operators: G
 Test Date: 03-07-2018

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

ZONAL FLUX DIAGRAM

Report number: GO2018-065

MANUFACTURER: BACKLIGHT SRL	Address: Via Volta 5 - Ornago (MB)	
NAME: MARKER_28W/line meter_1000mm	TYPE: wall	WEIGHT:
SPECIFICATION: wall	DIMENSION: 305x50x20	SERIAL No.:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	zone	total
10.0	421.9	431.5	438.7	433.6	422.5	434.2	438.8	434.3	0- 10	41.55	41.55
20.0	398.7	410.4	420.8	413.3	399.6	417.0	421.9	415.6	10- 20	119.8	161.3
30.0	361.3	375.2	388.3	378.2	361.7	385.5	390.7	382.2	20- 30	183.1	344.5
40.0	311.6	327.0	342.6	330.0	312.3	341.1	345.5	335.5	30- 40	223.0	567.5
50.0	252.0	269.1	286.3	271.7	252.2	285.8	287.1	277.3	40- 50	234.2	801.8
60.0	215.1	208.5	222.9	208.2	214.5	222.0	219.1	211.8	50- 60	218.1	1020
70.0	142.3	162.5	183.6	164.5	142.7	180.6	180.4	176.1	60- 70	195.7	1216
80.0	70.40	92.90	114.0	92.79	73.19	111.3	112.1	107.4	70- 80	140.4	1356
90.0	7.900	35.90	53.39	37.20	8.700	43.70	53.60	42.00	80- 90	72.17	1428
100.0	6.700	32.40	49.29	32.50	4.300	34.00	45.50	36.59	90-100	36.13	1464
110.0	6.000	30.70	43.79	30.50	4.300	30.30	42.00	32.79	100-110	31.27	1496
120.0	5.800	27.00	41.10	26.40	5.000	24.40	37.50	30.19	110-120	26.62	1522
130.0	6.100	25.20	35.60	20.90	5.700	21.79	34.40	26.30	120-130	21.53	1544
140.0	6.700	22.00	31.09	18.09	6.200	18.70	28.60	23.80	130-140	16.34	1560
150.0	7.200	17.29	25.20	14.00	6.800	15.80	24.10	19.90	140-150	11.25	1572
160.0	7.600	12.70	17.10	11.50	7.300	13.50	16.59	15.70	150-160	6.700	1578
170.0	7.800	9.400	11.20	9.300	7.500	10.80	11.10	12.10	160-170	3.224	1581
180.0	7.800	7.800	7.900	8.900	7.800	8.200	7.500	9.300	170-180	0.871	1582
DEG	LUMINOUS INTENSITY: cd									UNIT: lm	

Test System: LSG-1800
Temperature: 25.3 DEG
Operators: G
Test Date: 03-07-2018

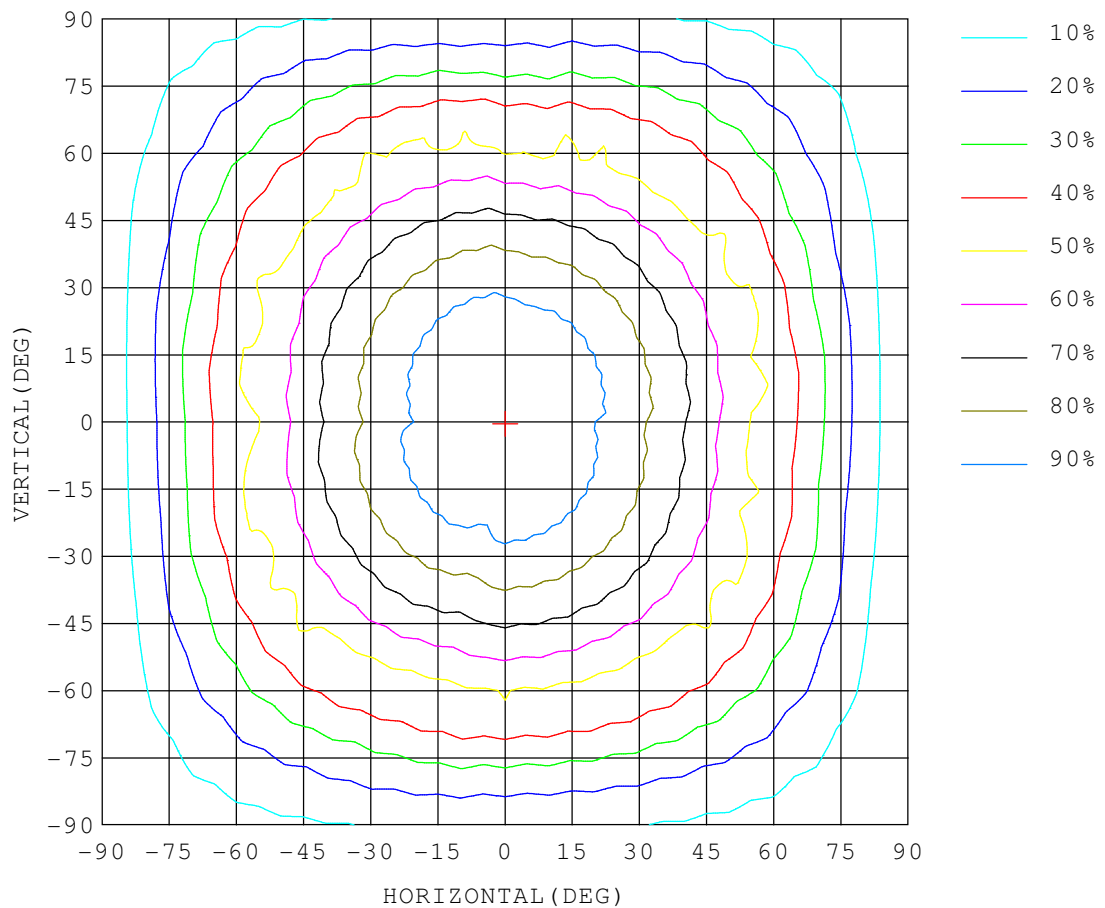
Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity: 65.0%
Test Distance: 10.000 m
Remarks:

ISOCANDELA DIAGRAM

Report number: GO2018-065

MANUFACTURER: BACKLIGHT SRL	Address: Via Volta 5 - Ornago (MB)	
NAME: MARKER_28W/line meter_1000mm	TYPE: wall	WEIGHT:
SPECIFICATION: wall	DIMENSION: 305x50x20	SERIAL No.:

UNIT: cd



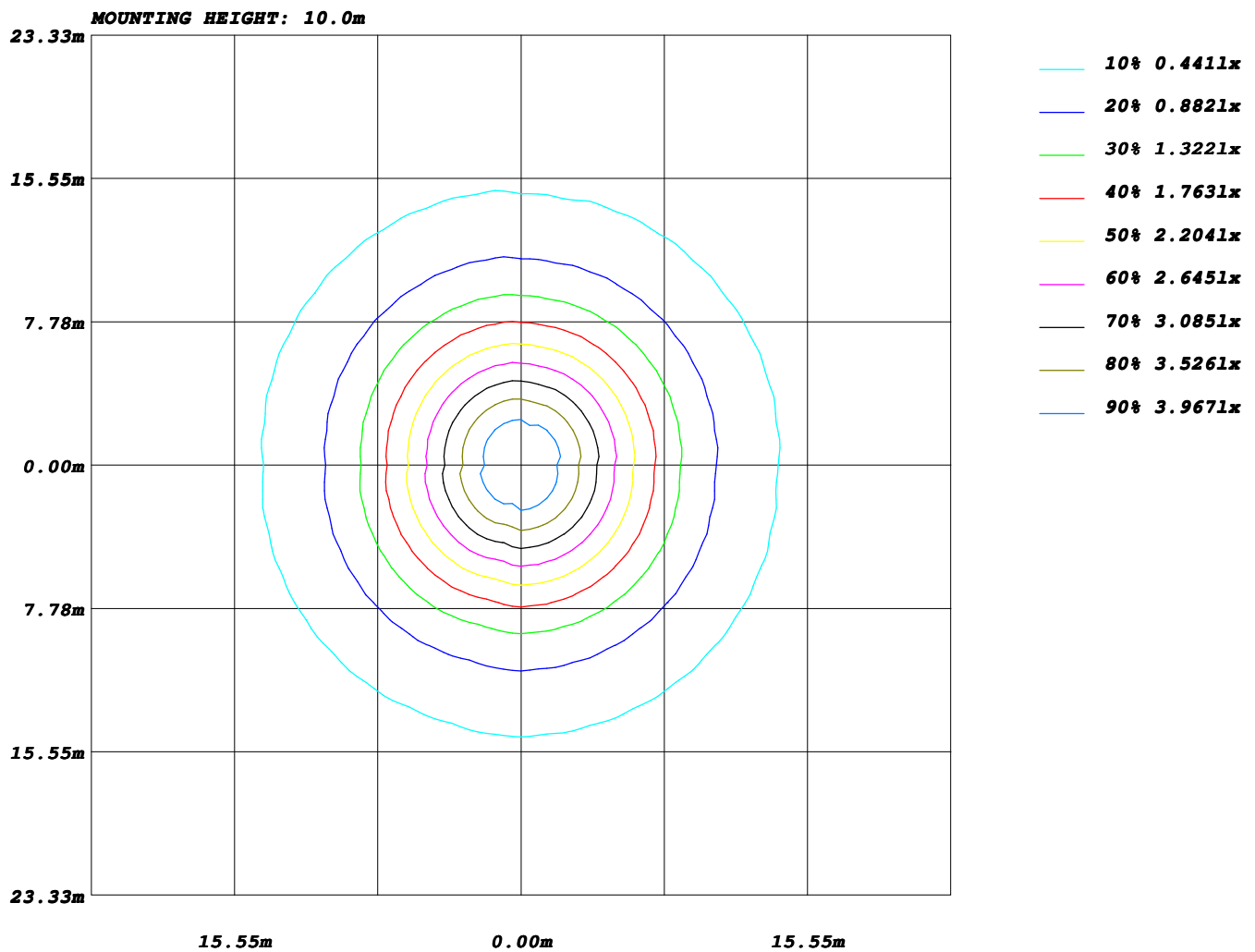
Test System: LSG-1800
Temperature: 25.3 DEG
Operators: G
Test Date: 03-07-2018

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

ISOLUX DIAGRAM

Report number: GO2018-065

MANUFACTURER: BACKLIGHT SRL	Address: Via Volta 5 - Ornago (MB)	
NAME: MARKER_28W/line meter_1000mm	TYPE: wall	WEIGHT:
SPECIFICATION: wall	DIMENSION: 305x50x20	SERIAL No.:



Test System: LSG-1800
 Temperature: 25.3DEG
 Operators: G
 Test Date: 03-07-2018

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



AREA LUMINOUS FLUX

Report number: GO2018-065

MANUFACTURER: BACKLIGHT SRL	Address: Via Volta 5 - Ornago (MB)	
NAME: MARKER_28W/line meter_1000mm	TYPE: wall	WEIGHT:
SPECIFICATION: wall	DIMENSION: 305x50x20	SERIAL No.:

VERTICAL (DEG)	AREA FLUX DIAGRAM																		UNIT:lm		Φ t	Φ a							
	90	80	70	60	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60	-70	-80	-90										
	0.05	0.23	0.53	0.95	1.40	1.86	2.25	2.48	2.56	2.54	2.50	2.23	1.81	1.34	0.88	0.48	0.19	0.04	24.3	22.7									
	0.07	0.35	0.87	1.58	2.40	3.23	3.95	4.48	4.61	4.46	4.36	3.87	3.14	2.32	1.51	0.81	0.31	0.05	42.4	41.9									
	0.08	0.48	1.20	2.21	3.38	4.58	5.57	6.07	6.32	6.30	6.12	5.49	4.48	3.29	2.13	1.14	0.43	0.07	59.4	59.1									
	0.10	0.60	1.53	2.83	4.30	5.50	6.56	7.43	7.86	7.60	7.21	6.35	5.30	4.13	2.70	1.43	0.54	0.08	72.1	71.9									
	0.12	0.70	1.82	3.35	4.72	6.34	7.91	9.11	9.71	9.49	8.89	7.68	6.11	4.61	3.20	1.69	0.62	0.10	86.2	86.1									
	0.13	0.78	2.07	3.65	5.27	7.29	9.10	10.4	11.2	11.0	10.3	8.93	7.10	5.16	3.52	1.95	0.71	0.11	98.8	98.7									
	0.14	0.86	2.21	3.82	5.77	7.98	9.97	11.4	12.3	12.1	11.3	9.86	7.86	5.66	3.85	2.13	0.80	0.12	108	108									
	0.14	0.90	2.34	3.99	6.08	8.39	10.4	12.0	12.9	12.8	12.0	10.4	8.34	6.02	3.94	2.28	0.86	0.12	114	114									
	0.14	0.89	2.36	4.03	6.17	8.50	10.6	12.2	13.1	13.1	12.2	10.6	8.51	6.15	4.01	2.34	0.87	0.13	116	116									
	0.14	0.88	2.33	4.01	6.19	8.57	10.7	12.3	13.1	13.1	12.1	10.5	8.38	6.04	3.91	2.28	0.85	0.12	116	116									
	0.13	0.85	2.30	4.01	6.07	8.38	10.4	12.0	12.7	12.8	11.9	10.3	8.21	5.91	3.91	2.22	0.81	0.12	113	113									
	0.12	0.82	2.20	3.82	5.70	7.87	9.83	11.2	11.9	12.1	11.2	9.73	7.75	5.58	3.79	2.12	0.77	0.11	107	107									
	0.11	0.77	1.99	3.59	5.18	7.09	8.85	10.1	10.8	10.9	10.1	8.79	7.01	5.08	3.60	1.92	0.72	0.10	96.9	96.8									
	0.10	0.67	1.76	3.24	4.70	6.08	7.57	8.59	9.33	9.41	8.74	7.57	6.04	4.63	3.16	1.69	0.63	0.09	84.0	83.9									
	0.09	0.56	1.46	2.71	4.10	5.20	6.14	6.93	7.58	7.59	7.06	6.19	5.19	4.04	2.64	1.40	0.52	0.08	69.5	69.3									
	0.07	0.44	1.12	2.07	3.17	4.24	5.16	5.88	6.30	6.27	5.92	5.24	4.26	3.13	2.02	1.07	0.40	0.06	56.8	56.6									
	0.06	0.32	0.79	1.43	2.14	2.88	3.58	4.17	4.43	4.38	4.09	3.57	2.88	2.12	1.37	0.73	0.28	0.05	39.3	38.7									
	0.04	0.20	0.47	0.85	1.26	1.67	2.06	2.35	2.43	2.39	2.23	1.95	1.58	1.18	0.78	0.44	0.18	0.03	22.1	19.9									
	-90	-80	-70	-60	-50	-40	-30	-20	HORIZONTAL (DEG)													20	30	40	50	60	70	80	90
Φ t	1.82	11.2	29.4	52.1	78.0	106	131	150	160	159	149	129	104	76.4	50.9	28.2	10.5	1.59	1582										
Φ a	0.98	10.4	28.7	51.7	77.9	106	131	150	160	159	149	129	104	76.2	50.4	27.3	9.52	0.70				1447							

Test System: LSG-1800
 Temperature: 25.3 DEG
 Operators: G
 Test Date: 03-07-2018

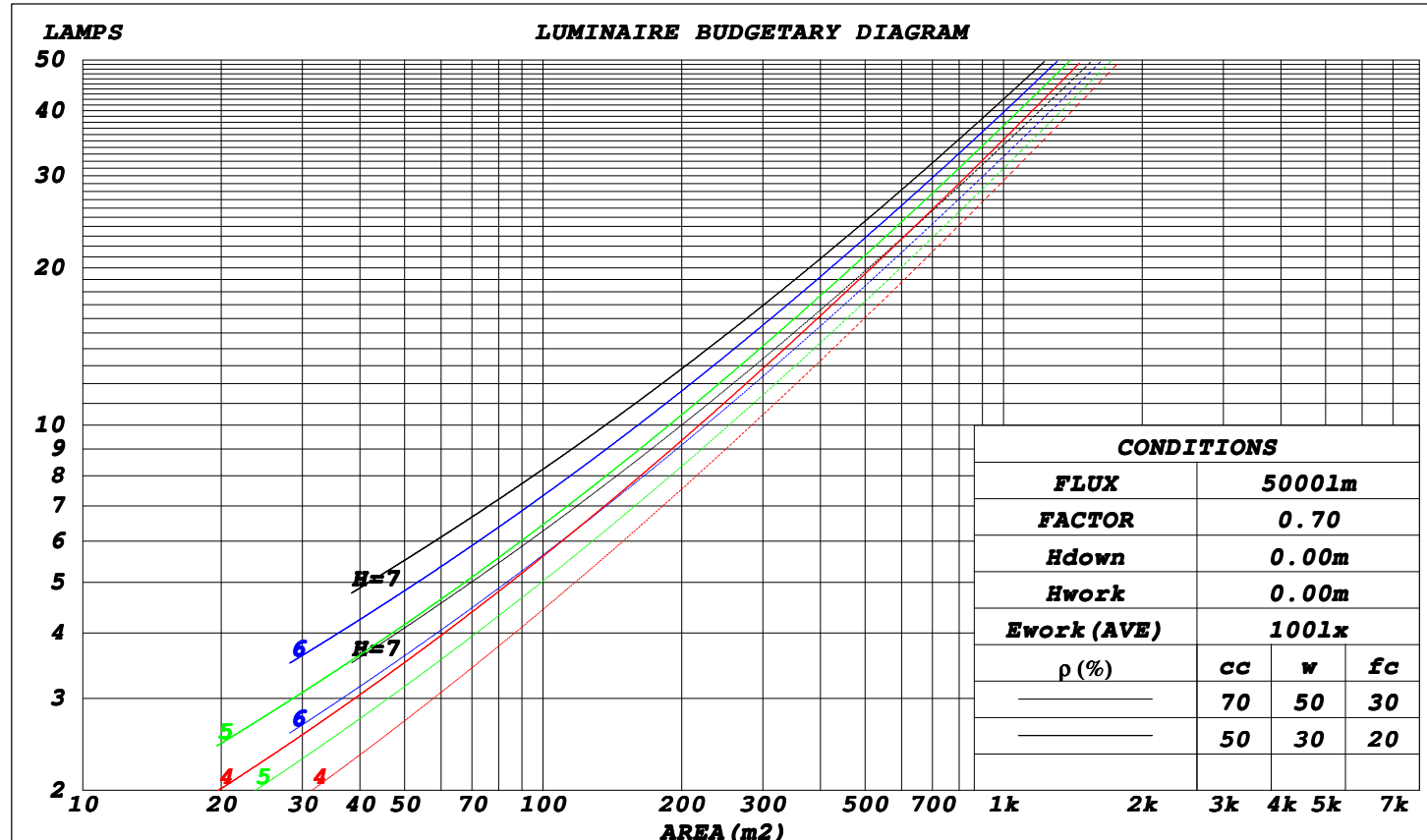
Test Set: 5.0 deg/s C-Gamma (TYPE C)
 Humidity: 65.0%
 Test Distance: 10.000 m
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Report number: GO2018-065

MANUFACTURER: BACKLIGHT SRL	Address: Via Volta 5 - Ornago (MB)				
NAME: MARKER_28W/line meter_1000mm	TYPE: wall			WEIGHT:	
SPECIFICATION: wall	DIMENSION: 305x50x20			SERIAL No.:	

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	1.17	1.17	1.17	1.13	1.13	1.13	1.06	1.06	1.06	.99	.99	.99	.93	.93	.93	.90
1.0	.99	.95	.90	.96	.92	.88	.90	.86	.83	.84	.82	.79	.79	.77	.75	.72
2.0	.86	.78	.72	.83	.76	.70	.78	.72	.67	.73	.68	.64	.68	.65	.61	.59
3.0	.75	.66	.59	.72	.64	.58	.68	.61	.56	.64	.58	.53	.60	.55	.51	.49
4.0	.66	.57	.50	.64	.55	.49	.60	.53	.47	.56	.50	.45	.53	.48	.44	.41
5.0	.59	.49	.42	.57	.48	.42	.54	.46	.40	.51	.44	.39	.48	.42	.38	.35
6.0	.53	.43	.37	.51	.42	.36	.48	.41	.35	.46	.39	.34	.43	.37	.33	.31
7.0	.47	.39	.32	.46	.38	.32	.44	.36	.31	.41	.35	.30	.39	.34	.29	.27
8.0	.43	.35	.29	.42	.34	.28	.40	.33	.27	.38	.31	.27	.36	.30	.26	.24
9.0	.40	.31	.26	.39	.31	.25	.37	.30	.25	.35	.29	.24	.33	.28	.23	.21
10.0	.36	.28	.23	.36	.28	.23	.34	.27	.22	.32	.26	.22	.31	.25	.21	.19



Test System: LSG-1800
 Temperature: 25.3DEG
 Operators: G
 Test Date: 03-07-2018

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

WEC AND CCEC

Report number: GO2018-065

MANUFACTURER: BACKLIGHT SRL	Address: Via Volta 5 - Ornago (MB)				
NAME: MARKER_28W/line meter_1000mm	TYPE: wall			WEIGHT:	
SPECIFICATION: wall	DIMENSION: 305x50x20			SERIAL No.:	

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pf _c	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients (WEC)									
0.0																
1.0	.350	.199	.063	.340	.194	.062	.321	.184	.059	.304	.175	.056	.288	.167	.054	
2.0	.315	.173	.053	.306	.169	.052	.289	.161	.050	.274	.153	.048	.259	.146	.046	
3.0	.285	.152	.045	.277	.148	.045	.262	.142	.043	.248	.136	.042	.234	.130	.040	
4.0	.259	.135	.040	.252	.132	.039	.238	.126	.038	.226	.121	.037	.214	.116	.035	
5.0	.237	.121	.035	.231	.119	.035	.218	.114	.033	.207	.109	.032	.196	.105	.031	
6.0	.219	.110	.031	.213	.107	.031	.201	.103	.030	.191	.099	.029	.181	.095	.028	
7.0	.202	.100	.028	.197	.098	.028	.187	.094	.027	.177	.091	.026	.168	.087	.026	
8.0	.188	.092	.026	.183	.090	.026	.174	.087	.025	.165	.084	.024	.157	.081	.023	
9.0	.176	.085	.024	.171	.084	.023	.163	.081	.023	.155	.078	.022	.147	.075	.022	
10.0	.165	.079	.022	.161	.078	.022	.153	.075	.021	.146	.072	.021	.139	.070	.020	

pcc	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	.265	.265	.265	.226	.226	.226	.154	.154	.154	.089	.089	.089	.028	.028	.028	
1.0	.258	.231	.206	.221	.198	.177	.151	.136	.123	.087	.079	.071	.028	.025	.023	
2.0	.251	.207	.170	.215	.178	.147	.147	.123	.103	.085	.072	.060	.027	.023	.020	
3.0	.243	.190	.148	.208	.164	.128	.143	.114	.090	.083	.067	.053	.027	.022	.017	
4.0	.235	.177	.133	.202	.153	.115	.139	.107	.081	.080	.063	.048	.026	.020	.016	
5.0	.228	.167	.122	.196	.145	.106	.135	.101	.075	.078	.059	.045	.025	.019	.015	
6.0	.220	.159	.115	.189	.138	.100	.131	.096	.071	.076	.057	.042	.024	.019	.014	
7.0	.213	.152	.109	.184	.132	.095	.127	.093	.068	.074	.055	.040	.024	.018	.013	
8.0	.207	.147	.105	.178	.127	.092	.123	.089	.065	.072	.053	.039	.023	.017	.013	
9.0	.201	.142	.102	.173	.123	.089	.120	.086	.063	.070	.051	.038	.023	.017	.012	
10.0	.195	.138	.099	.168	.119	.087	.117	.084	.062	.068	.050	.037	.022	.016	.012	

Test System: LSG-1800
Temperature: 25.3 DEG
Operators: G
Test Date: 03-07-2018

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

Uncorrected UGR Table

Report number: GO2018-065

MANUFACTURER: BACKLIGHT SRL						Address:Via Volta 5 – Ornago (MB)					
NAME: MARKER_28W/line meter_1000mm						TYPE:wall		WEIGHT:			
SPECIFICATION:wall						DIMENSION: 305x50x20		SERIAL No.:			
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	17.1	18.6	17.5	19.0	19.4	17.6	19.1	18.0	19.4	19.8	
	3H	18.9	20.2	19.4	20.7	21.1	19.8	21.2	20.3	21.6	22.0
	4H	19.7	20.9	20.1	21.3	21.8	20.8	22.1	21.3	22.5	23.0
	6H	20.2	21.4	20.7	21.9	22.3	21.8	23.0	22.2	23.4	23.9
	8H	20.4	21.5	20.9	22.0	22.5	22.2	23.3	22.7	23.8	24.3
	12H	20.5	21.6	21.0	22.1	22.6	22.6	23.7	23.1	24.2	24.7
4H 2H	18.0	19.2	18.4	19.7	20.1	18.3	19.6	18.8	20.0	20.5	
	3H	19.9	21.0	20.4	21.5	22.0	20.7	21.8	21.2	22.3	22.8
	4H	20.8	21.8	21.3	22.3	22.9	21.8	22.9	22.4	23.4	23.9
	6H	21.5	22.4	22.1	23.0	23.5	22.9	23.9	23.5	24.4	24.9
	8H	21.7	22.6	22.3	23.1	23.7	23.4	24.3	24.0	24.8	25.4
	12H	21.9	22.7	22.5	23.3	23.9	24.0	24.7	24.5	25.3	25.9
8H 4H	21.3	22.2	21.9	22.7	23.3	22.2	23.0	22.7	23.6	24.2	
	6H	22.2	22.9	22.8	23.5	24.1	23.5	24.2	24.1	24.8	25.4
	8H	22.6	23.2	23.2	23.8	24.4	24.1	24.8	24.7	25.3	26.0
	12H	22.9	23.4	23.5	24.0	24.7	24.8	25.4	25.4	26.0	26.7
12H 4H	21.4	22.2	22.0	22.7	23.3	22.2	23.0	22.8	23.5	24.1	
	6H	22.4	23.0	23.0	23.6	24.3	23.6	24.2	24.2	24.8	25.4
	8H	22.8	23.4	23.4	24.0	24.7	24.3	24.8	24.9	25.4	26.1
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / – 0.1					+ 0.1 / – 0.1					
1.5H	+ 0.1 / – 0.2					+ 0.1 / – 0.2					
2.0H	+ 0.2 / – 0.3					+ 0.2 / – 0.2					

CIE Pub.117 Corrected 1582 lm Total Lamp Luminous Flux. (8log(F/F0) = 1.6)

Test System: LSG-1800
 Temperature: 25.3DEG
 Operators: G
 Test Date: 03-07-2018

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

UTILIZATION FACTORS TABLE

Report number: GO2018-065

MANUFACTURER: BACKLIGHT SRL	Address: Via Volta 5 - Ornago (MB)	
NAME: MARKER_28W/line meter_1000mm	TYPE: wall	WEIGHT:
SPECIFICATION: wall	DIMENSION: 305x50x20	SERIAL No.:

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) $k(RI) \times RCR = 5$									
$k = 0.60$	52	40	33	51	40	33	50	39	33	26
0.80	62	50	42	61	49	42	58	48	41	33
1.00	70	58	50	68	57	49	65	58	48	40
1.25	77	65	57	75	64	57	71	62	55	47
1.50	82	71	63	80	69	62	75	67	60	51
2.00	89	79	72	86	77	71	82	74	68	58
2.50	93	84	77	90	82	76	85	78	73	62
3.00	97	89	82	94	87	81	88	82	77	66
4.00	101	94	89	98	92	87	92	87	83	71
5.00	104	98	93	101	95	91	94	90	87	74
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SERNOM = 1.25		

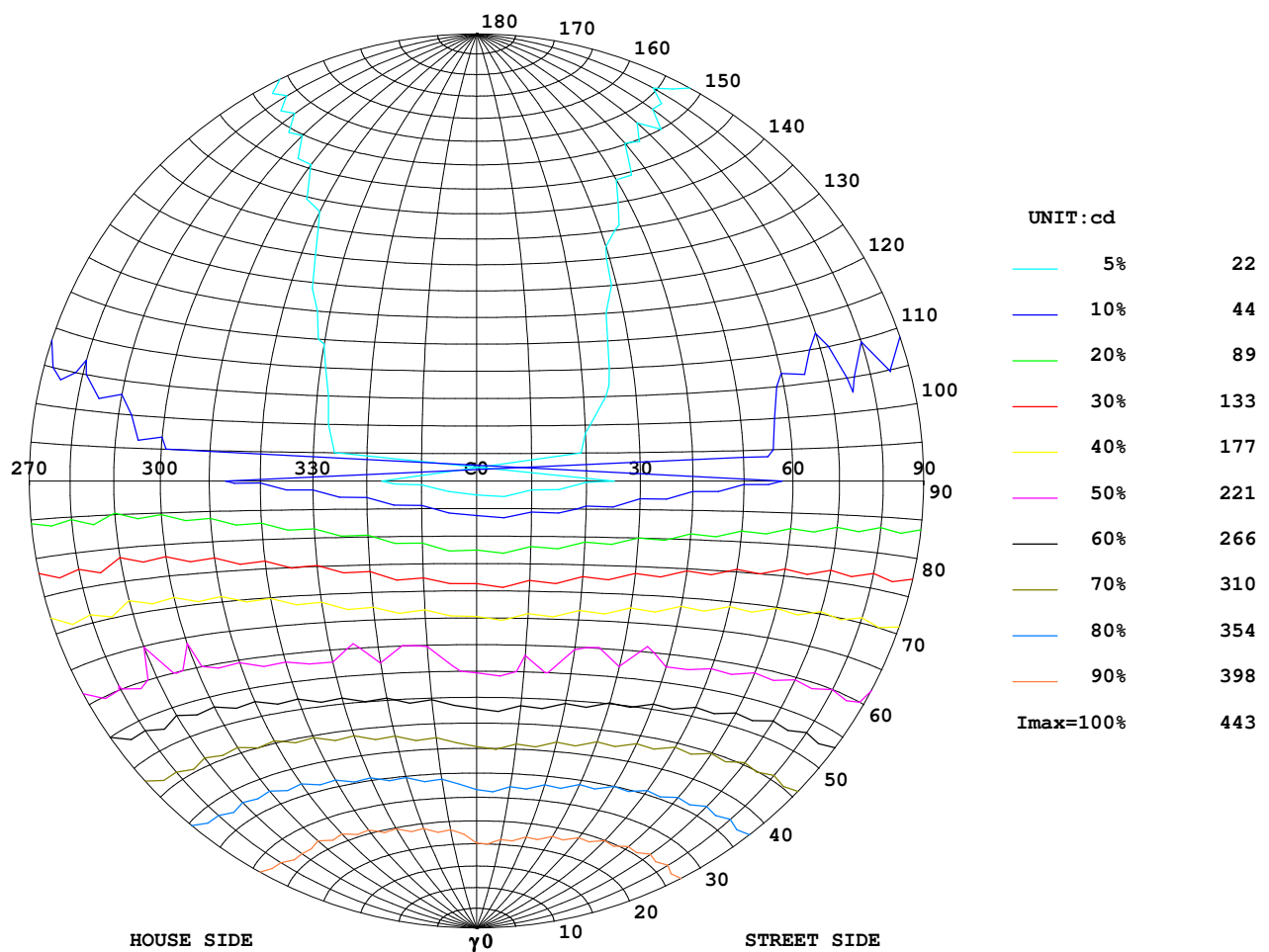
Test System: LSG-1800
Temperature: 25.3 DEG
Operators: G
Test Date: 03-07-2018

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

ISOCANDELA DIAGRAM

Report number: GO2018-065

MANUFACTURER: BACKLIGHT SRL	Address: Via Volta 5 - Ornago (MB)	
NAME: MARKER_28W/line meter_1000mm	TYPE: wall	WEIGHT:
SPECIFICATION: wall	DIMENSION: 305x50x20	SERIAL No.:



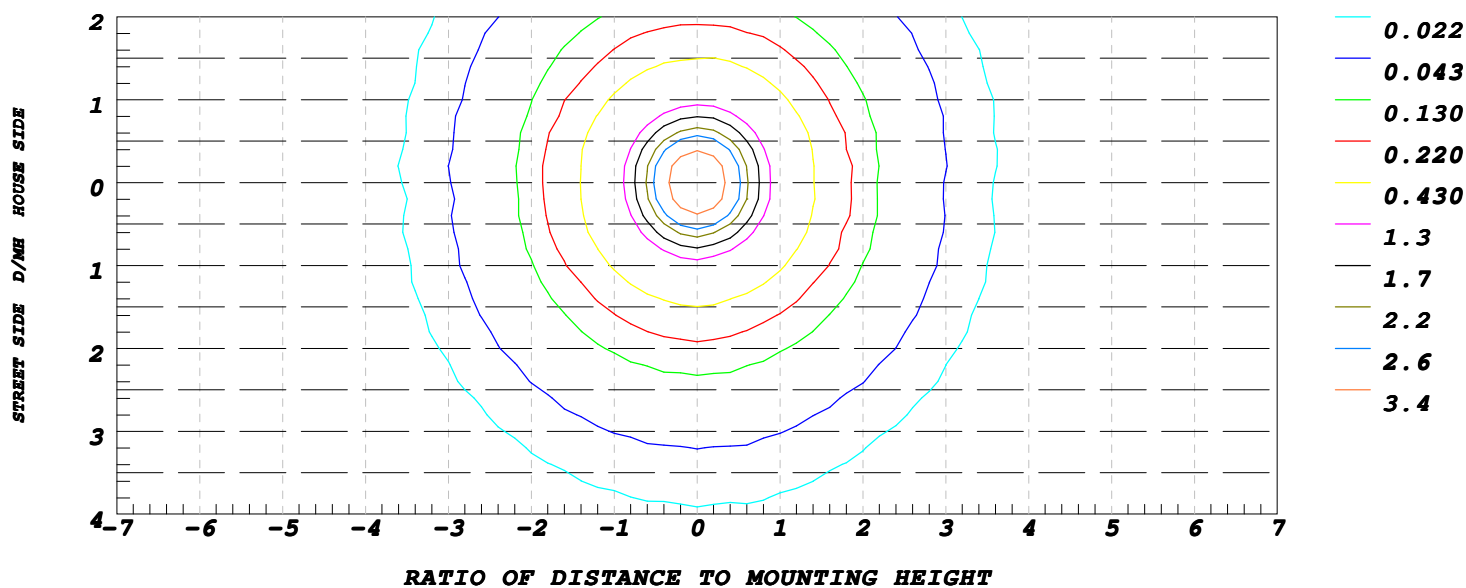
Test System: LSG-1800
 Temperature: 25.3 DEG
 Operators: G
 Test Date: 03-07-2018

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

ISOLUX DIAGRAM

Report number: GO2018-065

MANUFACTURER: BACKLIGHT SRL	Address: Via Volta 5 - Ornago (MB)	
NAME: MARKER_28W/line meter_1000mm	TYPE: wall	WEIGHT:
SPECIFICATION: wall	DIMENSION: 305x50x20	SERIAL No.:

ILLUMINANCE AT MH=10 m, Enadir = 4.30 lx

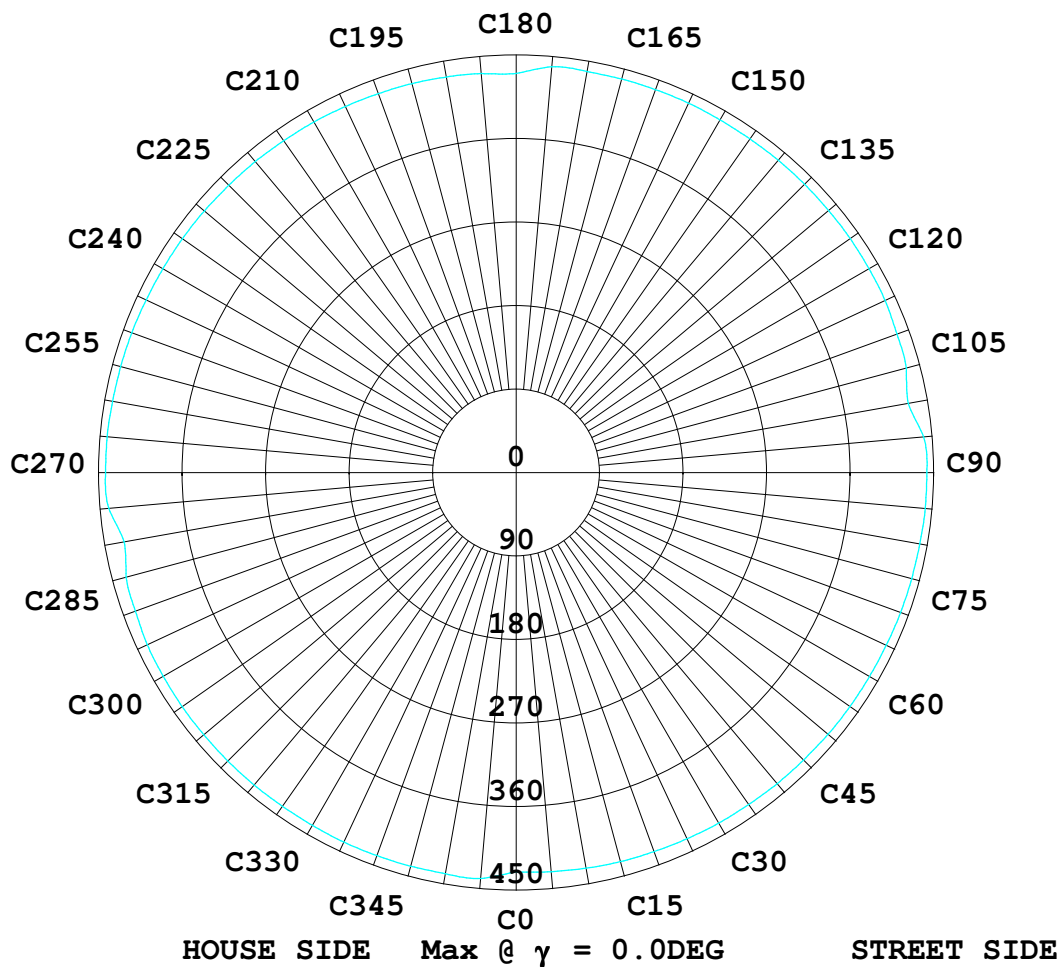
Test System: LSG-1800
Temperature: 25.3 DEG
Operators: G
Test Date: 03-07-2018

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

ISOCANDELA DIAGRAM

Report number: GO2018-065

MANUFACTURER: BACKLIGHT SRL	Address: Via Volta 5 - Ornago (MB)	
NAME: MARKER_28W/line meter_1000mm	TYPE: wall	WEIGHT:
SPECIFICATION: wall	DIMENSION: 305x50x20	SERIAL No.:



Test System: LSG-1800
 Temperature: 25.3DEG
 Operators: G
 Test Date: 03-07-2018

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