

# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

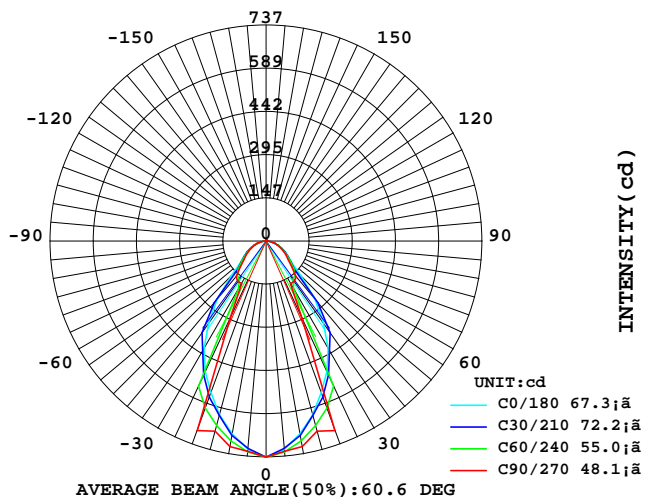
## LUMINAIRE PHOTOMETRIC TEST REPORT

Report number: 1

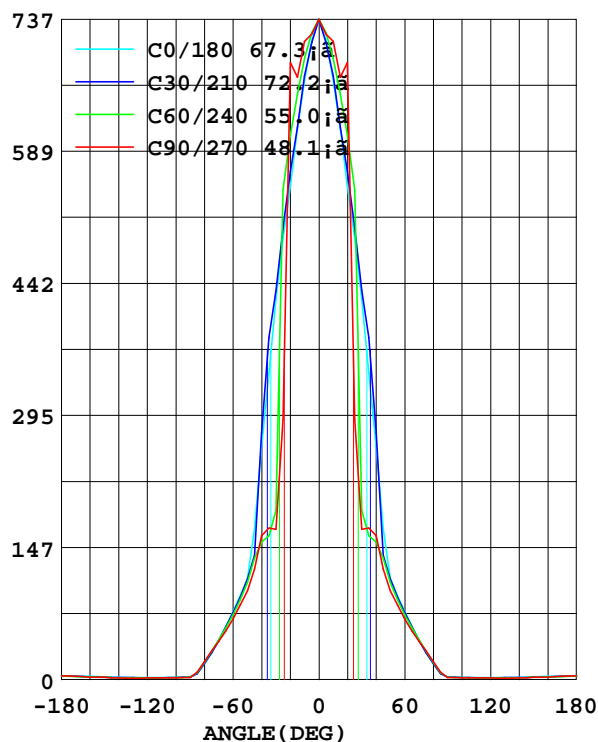
MANUFACTURER: Luminii	Address:7777 N Merrimac Ave, Nile, IL 60714	
NAME: KM-48-30K-VHO-C-XX-SA-BL	TYPE:Kendo M	WEIGHT:Blade Louver
SPECIFICATION:LL72-30K-YF7	DIMENSION: 4x0.06x0.07	SERIAL No.:N/A

DATA OF LAMP		Imax(cd)	736.7	S/MH(C0/180)	0.93
MODEL	3528 LED	EFFICIENCY(%)	100.0	S/MH(C90/270)	0.68
NOMINAL POWER(W)	26	TOTAL FLUX(lm)	909.28	Voltage(V)	25.02
RATED VOLTAGE(V)	25	EFFICIENCY(lm/W)	36.1	Current(A)	1.007
NOMINAL FLUX(lm)	909.3	$\eta$ up(%)	1.1	Power(W)	25.21
LAMPS QUANTITY	1	$\eta$ down(%)	98.9	Power Factor(PF)	1.000
TEST VOLTAGE(V)	25.0	Effective Flux(lm)	909.3	EEI	0.355

LUMINOUS INTENSITY DISTRIBUTION



LUMINOUS INTENSITY DISTRIBUTION



Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:HP  
 Test Date:04-02-2018

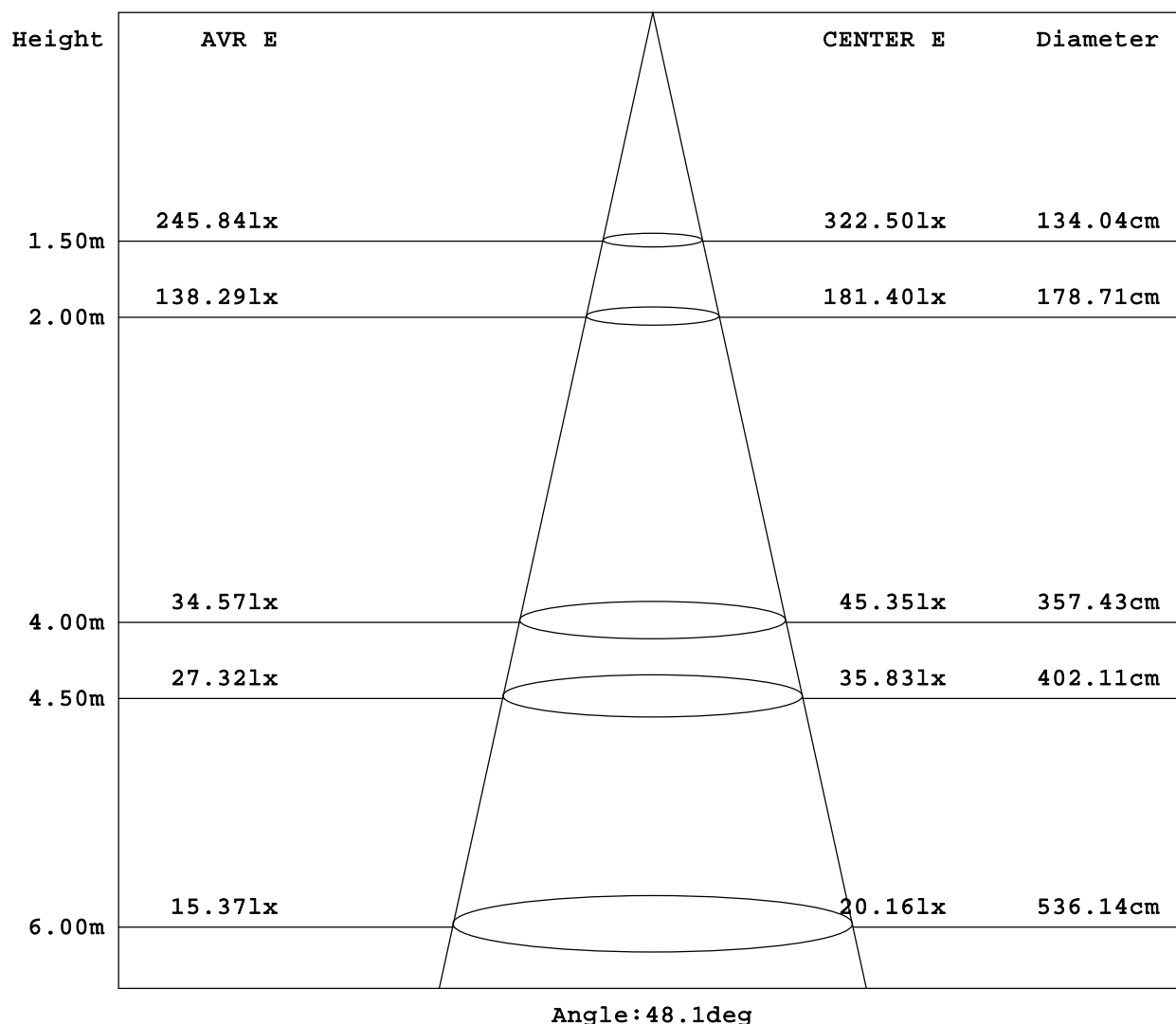
Test Set: 5.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:8.384 m  
 Remarks: KM-48-30K-VHO-C-XX-SA-BL

# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## AVERAGE AND CENTER E Figure

Report number: 1

MANUFACTURER: Luminii	Address:7777 N Merrimac Ave, Nile, IL 60714	
NAME: KM-48-30K-VHO-C-XX-SA-BL	TYPE:Kendo M	WEIGHT:Blade Louver
SPECIFICATION:LL72-30K-YF7	DIMENSION: 4x0.06x0.07	SERIAL No.:N/A



Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:HP  
 Test Date:04-02-2018

Test Set: 5.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:8.384 m  
 Remarks: KM-48-30K-VHO-C-XX-SA-BL

# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## ZONAL FLUX DIAGRAM

Report number: 1

MANUFACTURER: Luminii	Address:7777 N Merrimac Ave, Nile, IL 60714	
NAME: KM-48-30K-VHO-C-XX-SA-BL	TYPE:Kendo M	WEIGHT:Blade Louver
SPECIFICATION:LL72-30K-YF7	DIMENSION: 4x0.06x0.07	SERIAL No.:N/A

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	zone	total
10.0	667.8	671.7	711.8	671.7	667.8	671.7	711.8	671.7	0- 10	67.39	67.39
20.0	550.5	567.6	688.2	567.6	550.5	567.6	688.2	567.6	10- 20	179.8	247.2
30.0	424.3	438.2	167.8	438.2	424.3	438.2	167.8	438.2	20- 30	210.6	457.8
40.0	260.0	141.9	160.6	141.9	260.0	141.9	160.6	141.9	30- 40	157.2	615.0
50.0	112.9	108.2	99.05	108.2	112.9	108.2	99.05	108.2	40- 50	112.2	727.2
60.0	75.79	68.16	67.57	68.16	75.79	68.16	67.57	68.16	50- 60	78.27	805.5
70.0	43.60	39.46	42.79	39.46	43.60	39.46	42.79	39.46	60- 70	54.88	860.4
80.0	17.70	14.35	19.87	14.35	17.70	14.35	19.87	14.35	70- 80	30.47	890.9
90.0	3.140	0.211	2.484	0.211	3.140	0.211	2.484	0.211	80- 90	8.040	898.9
100.0	2.498	0.281	2.070	0.281	2.498	0.281	2.070	0.281	90-100	1.503	900.4
110.0	2.212	0.422	1.863	0.422	2.212	0.422	1.863	0.422	100-110	1.331	901.7
120.0	2.212	0.633	1.794	0.633	2.212	0.633	1.794	0.633	110-120	1.268	903.0
130.0	2.283	0.985	1.725	0.985	2.283	0.985	1.725	0.985	120-130	1.236	904.3
140.0	2.640	1.406	1.863	1.406	2.640	1.406	1.863	1.406	130-140	1.250	905.5
150.0	3.140	1.969	2.553	1.969	3.140	1.969	2.553	1.969	140-150	1.301	906.8
160.0	3.640	2.391	2.761	2.391	3.640	2.391	2.761	2.391	150-160	1.198	908.0
170.0	4.139	3.165	3.589	3.165	4.139	3.165	3.589	3.165	160-170	0.884	908.9
180.0	4.353	3.657	4.072	3.657	4.353	3.657	4.072	3.657	170-180	0.348	909.2
DEG	LUMINOUS INTENSITY:cd									UNIT:lm	

Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:HP  
 Test Date:04-02-2018

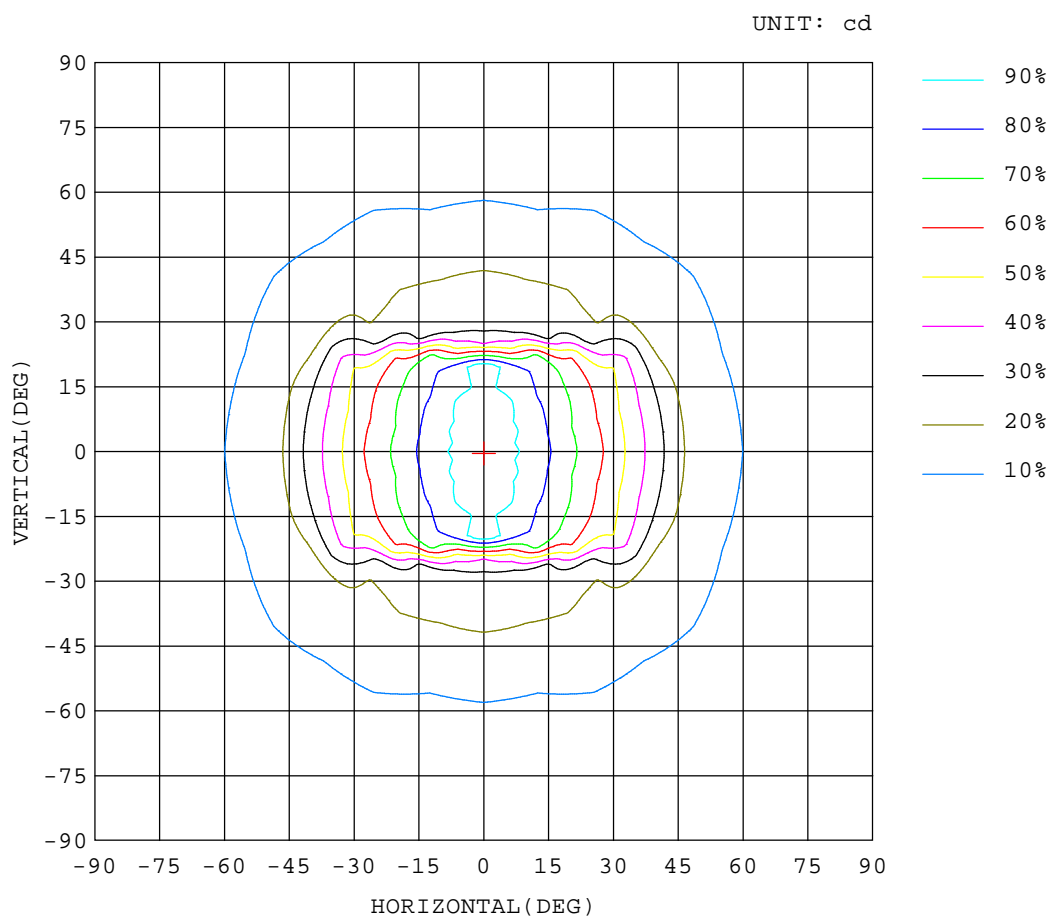
Test Set: 5.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:8.384 m  
 Remarks: KM-48-30K-VHO-C-XX-SA-BL

# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## ISOCANDELA DIAGRAM

Report number: 1

MANUFACTURER: Luminii	Address:7777 N Merrimac Ave, Nile, IL 60714	
NAME: KM-48-30K-VHO-C-XX-SA-BL	TYPE:Kendo M	WEIGHT:Blade Louver
SPECIFICATION:LL72-30K-YF7	DIMENSION: 4x0.06x0.07	SERIAL No.:N/A



Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:HP  
Test Date:04-02-2018

Test Set: 5.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:8.384 m  
Remarks: KM-48-30K-VHO-C-XX-SA-BL

# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## AREA LUMINOUS FLUX

Report number: 1

MANUFACTURER: Luminii	Address:7777 N Merrimac Ave, Nile, IL 60714	
NAME: KM-48-30K-VHO-C-XX-SA-BL	TYPE:Kendo M	WEIGHT:Blade Louver
SPECIFICATION:LL72-30K-YF7	DIMENSION: 4x0.06x0.07	SERIAL No.:N/A

VERTICAL (DEG)	AREA FLUX DIAGRAM																	UNIT:lm		Φ t	Φ a
	0.01	0.01	0.05	0.07	0.08	0.16	0.21	0.20	0.27	0.27	0.20	0.21	0.16	0.08	0.07	0.05	0.01	0.01	2.09	2.09	
90	0.01	0.03	0.11	0.24	0.35	0.57	0.75	0.81	0.93	0.93	0.81	0.75	0.57	0.35	0.24	0.11	0.03	0.01	7.59	7.59	
80	0.01	0.06	0.22	0.47	0.72	1.06	1.38	1.49	1.63	1.63	1.49	1.38	1.06	0.72	0.47	0.22	0.06	0.01	14.1	14.1	
70	0.01	0.09	0.32	0.71	1.12	1.59	2.10	2.30	2.49	2.49	2.30	2.10	1.59	1.12	0.71	0.32	0.09	0.01	21.5	21.5	
60	0.02	0.13	0.42	0.94	1.55	2.21	3.01	3.46	3.78	3.78	3.46	3.01	2.21	1.55	0.94	0.42	0.13	0.02	31.1	31.1	
50	0.02	0.17	0.52	1.13	1.99	2.99	3.91	4.63	4.97	4.97	4.63	3.91	2.99	1.99	1.13	0.52	0.17	0.02	40.6	40.6	
40	0.02	0.20	0.61	1.30	2.42	5.11	7.23	9.72	10.7	10.7	9.72	7.23	5.11	2.42	1.30	0.61	0.20	0.02	74.8	74.8	
30	0.03	0.22	0.69	1.46	3.14	7.51	12.2	16.5	20.2	20.2	16.5	12.2	7.51	3.14	1.46	0.69	0.22	0.03	124	124	
	0.03	0.24	0.75	1.59	3.69	8.25	13.0	17.4	21.0	21.0	17.4	13.0	8.25	3.69	1.59	0.75	0.24	0.03	132	132	
	0.03	0.24	0.75	1.59	3.69	8.25	13.0	17.4	21.0	21.0	17.4	13.0	8.25	3.69	1.59	0.75	0.24	0.03	132	132	
	0.03	0.22	0.69	1.46	3.14	7.51	12.2	16.5	20.2	20.2	16.5	12.2	7.51	3.14	1.46	0.69	0.22	0.03	124	124	
-30	0.02	0.20	0.61	1.30	2.42	5.11	7.23	9.72	10.7	10.7	9.72	7.23	5.11	2.42	1.30	0.61	0.20	0.02	74.8	74.8	
-40	0.02	0.17	0.52	1.13	1.99	2.99	3.91	4.63	4.97	4.97	4.63	3.91	2.99	1.99	1.13	0.52	0.17	0.02	40.6	40.6	
-50	0.02	0.13	0.42	0.94	1.55	2.21	3.01	3.46	3.78	3.78	3.46	3.01	2.21	1.55	0.94	0.42	0.13	0.02	31.1	31.1	
-60	0.01	0.09	0.32	0.71	1.12	1.59	2.10	2.30	2.49	2.49	2.30	2.10	1.59	1.12	0.71	0.32	0.09	0.01	21.5	21.5	
-70	0.01	0.06	0.22	0.47	0.72	1.06	1.38	1.49	1.63	1.63	1.49	1.38	1.06	0.72	0.47	0.22	0.06	0.01	14.1	14.1	
-80	0.01	0.03	0.11	0.24	0.35	0.57	0.75	0.81	0.93	0.93	0.81	0.75	0.57	0.35	0.24	0.11	0.03	0.01	7.59	7.59	
-90	0.01	0.01	0.05	0.07	0.08	0.16	0.21	0.20	0.27	0.27	0.20	0.21	0.16	0.08	0.07	0.05	0.01	0.01	2.09	2.09	
	-90	-80	-70	-60	-50	-40	-30	-20	HORIZONTAL (DEG)				20	30	40	50	60	70	80	90	
Φ t	0.31	2.31	7.36	15.8	30.1	58.9	87.7	113	132	132	113	87.7	58.9	30.1	15.8	7.36	2.31	0.31	909		
Φ a	0.31	2.31	7.36	15.8	30.1	58.9	87.7	113	132	132	113	87.7	58.9	30.1	15.8	7.36	2.31	0.31		909	

Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:HP  
Test Date:04-02-2018

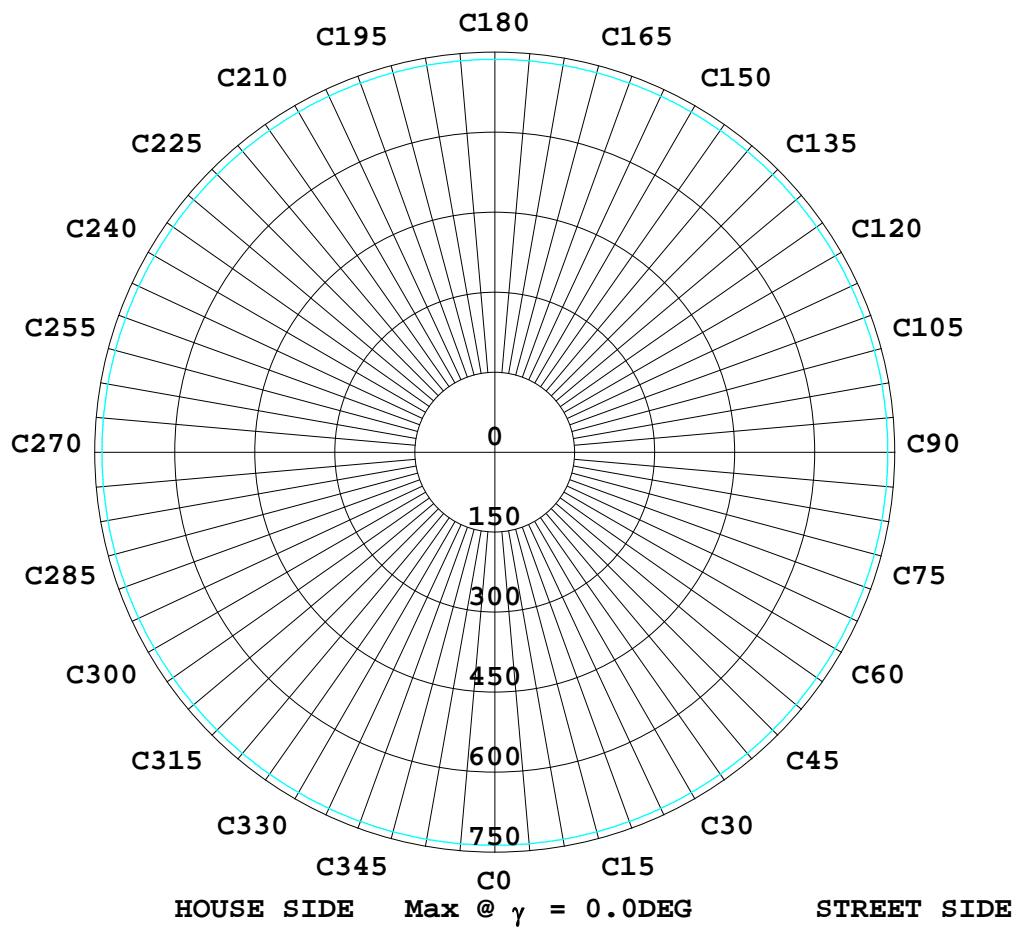
Test Set: 5.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:8.384 m  
Remarks: KM-48-30K-VHO-C-XX-SA-BL

# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## ISOCANDELA DIAGRAM

Report number: 1

MANUFACTURER: Luminii	Address: 7777 N Merrimac Ave, Nile, IL 60714	
NAME: KM-48-30K-VHO-C-XX-SA-BL	TYPE: Kendo M	WEIGHT: Blade Louver
SPECIFICATION: LL72-30K-YF7	DIMENSION: 4x0.06x0.07	SERIAL No.: N/A



Test System: HOPOO HPG1800  
Temperature: 25.3 DEG  
Operators: HP  
Test Date: 04-02-2018

Test Set: 5.0 deg/s C-Gamma (TYPE C)  
Humidity: 65.0%  
Test Distance: 8.384 m  
Remarks: KM-48-30K-VHO-C-XX-SA-BL

# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINOUS DISTRIBUTION INTENSITY DATA

Report number: 1

MANUFACTURER: Luminii	Address:7777 N Merrimac Ave, Nile, IL 60714	
NAME: KM-48-30K-VHO-C-XX-SA-BL	TYPE:Kendo M	WEIGHT:Blade Louver
SPECIFICATION:LL72-30K-YF7	DIMENSION: 4x0.06x0.07	SERIAL No.:N/A

UNIT: cd

C(DEG) γ (DEG)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210
0.0	737	737	737	737	737	737	737	737	737	737	737	737	737	737	737
5.0	714	709	711	715	722	719	720	719	722	715	711	709	714	709	711
10.0	668	664	673	672	692	706	712	706	692	672	673	664	668	664	673
15.0	615	615	616	634	653	660	672	660	653	634	616	615	615	615	616
20.0	551	548	567	568	607	655	688	655	607	568	567	548	551	548	567
25.0	492	487	504	525	546	339	290	339	546	525	504	487	492	487	504
30.0	424	420	434	438	188	161	168	161	188	438	434	420	424	420	434
35.0	342	346	381	173	161	159	169	159	161	173	381	346	342	346	381
40.0	260	258	276	142	153	152	161	152	153	142	276	258	260	258	276
45.0	168	168	139	130	136	120	124	120	136	130	139	168	168	168	139
50.0	113	108	112	108	108	95.4	99.0	95.4	108	108	112	108	113	108	112
55.0	93.4	87.4	91.7	85.4	88.6	79.0	83.0	79.0	88.6	85.4	91.7	87.4	93.4	87.4	91.7
60.0	75.7	70.2	74.6	68.1	72.2	64.5	67.5	64.5	72.2	68.1	74.6	70.2	75.7	70.2	74.6
65.0	59.1	53.4	58.6	53.3	57.6	50.6	54.1	50.6	57.6	53.3	58.6	53.4	59.1	53.4	58.6
70.0	43.6	38.6	43.5	39.4	44.3	39.1	42.7	39.1	44.3	39.4	43.5	38.6	43.6	38.6	43.5
75.0	30.0	25.5	29.9	26.3	31.6	27.9	31.9	27.9	31.6	26.3	29.9	25.5	30.0	25.5	29.9
80.0	17.7	13.7	17.5	14.3	19.0	16.0	19.8	16.0	19.0	14.3	17.5	13.7	17.7	13.7	17.5
85.0	6.85	3.51	6.73	3.86	7.50	4.98	8.49	4.98	7.50	3.86	6.73	3.51	6.85	3.51	6.73
90.0	3.14	0.43	2.76	0.21	2.57	0.07	2.48	0.07	2.57	0.21	2.76	0.43	3.14	0.43	2.76
95.0	2.71	0.43	2.55	0.28	2.36	0.14	2.20	0.14	2.36	0.28	2.55	0.43	2.71	0.43	2.55
100.0	2.49	0.50	2.26	0.28	2.22	0.21	2.07	0.21	2.22	0.28	2.26	0.50	2.49	0.50	2.26
105.0	2.35	0.50	2.19	0.35	2.01	0.28	1.93	0.28	2.01	0.35	2.19	0.50	2.35	0.50	2.19
110.0	2.21	0.65	2.12	0.42	1.87	0.35	1.86	0.35	1.87	0.42	2.12	0.65	2.21	0.65	2.12
115.0	2.21	0.79	2.05	0.56	1.80	0.42	1.79	0.42	1.80	0.56	2.05	0.79	2.21	0.79	2.05
120.0	2.21	1.00	1.98	0.63	1.80	0.55	1.79	0.55	1.80	0.63	1.98	1.00	2.21	1.00	1.98
125.0	2.28	0.93	2.05	0.70	1.80	0.62	1.72	0.62	1.80	0.70	2.05	0.93	2.28	0.93	2.05
130.0	2.28	1.21	2.19	0.98	1.80	0.69	1.72	0.69	1.80	0.98	2.19	1.21	2.28	1.21	2.19
135.0	2.42	1.36	2.26	1.19	1.87	0.83	1.72	0.83	1.87	1.19	2.26	1.36	2.42	1.36	2.26
140.0	2.64	1.57	2.40	1.40	2.01	1.10	1.86	1.10	2.01	1.40	2.40	1.57	2.64	1.57	2.40
145.0	2.85	1.86	2.40	1.82	2.29	1.52	2.13	1.52	2.29	1.82	2.40	1.86	2.85	1.86	2.40
150.0	3.14	2.22	2.69	1.96	2.64	2.00	2.55	2.00	2.64	1.96	2.69	2.22	3.14	2.22	2.69
155.0	3.42	2.58	2.83	2.03	2.71	2.28	2.83	2.28	2.71	2.03	2.83	2.58	3.42	2.58	2.83
160.0	3.64	2.86	3.11	2.39	2.91	2.35	2.76	2.35	2.91	2.39	3.11	2.86	3.64	2.86	3.11
165.0	3.92	3.22	3.40	2.81	3.12	2.76	3.24	2.76	3.12	2.81	3.40	3.22	3.92	3.22	3.40
170.0	4.13	3.51	3.68	3.16	3.47	3.11	3.58	3.11	3.47	3.16	3.68	3.51	4.13	3.51	3.68
175.0	4.28	3.80	3.82	3.37	3.75	3.46	3.93	3.46	3.75	3.37	3.82	3.80	4.28	3.80	3.82
180.0	4.35	3.94	3.96	3.65	3.82	3.73	4.07	3.73	3.82	3.65	3.96	3.94	4.35	3.94	3.96

Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:HP  
Test Date:04-02-2018

Test Set: 5.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:8.384 m  
Remarks: KM-48-30K-VHO-C-XX-SA-BL

# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINOUS DISTRIBUTION INTENSITY DATA

Report number: 1

MANUFACTURER: Luminii	Address:7777 N Merrimac Ave, Nile, IL 60714	
NAME: KM-48-30K-VHO-C-XX-SA-BL	TYPE:Kendo M	WEIGHT:Blade Louver
SPECIFICATION:LL72-30K-YF7	DIMENSION: 4x0.06x0.07	SERIAL No.:N/A

UNIT: cd

C(DEG) γ (DEG)	225	240	255	270	285	300	315	330	345
0.0	737	737	737	737	737	737	737	737	737
5.0	715	722	719	720	719	722	715	711	709
10.0	672	692	706	712	706	692	672	673	664
15.0	634	653	660	672	660	653	634	616	615
20.0	568	607	655	688	655	607	568	567	548
25.0	525	546	339	290	339	546	525	504	487
30.0	438	188	161	168	161	188	438	434	420
35.0	173	161	159	169	159	161	173	381	346
40.0	142	153	152	161	152	153	142	276	258
45.0	130	136	120	124	120	136	130	139	168
50.0	108	108	95.4	99.0	95.4	108	108	112	108
55.0	85.4	88.6	79.0	83.0	79.0	88.6	85.4	91.7	87.4
60.0	68.1	72.2	64.5	67.5	64.5	72.2	68.1	74.6	70.2
65.0	53.3	57.6	50.6	54.1	50.6	57.6	53.3	58.6	53.4
70.0	39.4	44.3	39.1	42.7	39.1	44.3	39.4	43.5	38.6
75.0	26.3	31.6	27.9	31.9	27.9	31.6	26.3	29.9	25.5
80.0	14.3	19.0	16.0	19.8	16.0	19.0	14.3	17.5	13.7
85.0	3.86	7.50	4.98	8.49	4.98	7.50	3.86	6.73	3.51
90.0	0.21	2.57	0.07	2.48	0.07	2.57	0.21	2.76	0.43
95.0	0.28	2.36	0.14	2.20	0.14	2.36	0.28	2.55	0.43
100.0	0.28	2.22	0.21	2.07	0.21	2.22	0.28	2.26	0.50
105.0	0.35	2.01	0.28	1.93	0.28	2.01	0.35	2.19	0.50
110.0	0.42	1.87	0.35	1.86	0.35	1.87	0.42	2.12	0.65
115.0	0.56	1.80	0.42	1.79	0.42	1.80	0.56	2.05	0.79
120.0	0.63	1.80	0.55	1.79	0.55	1.80	0.63	1.98	1.00
125.0	0.70	1.80	0.62	1.72	0.62	1.80	0.70	2.05	0.93
130.0	0.98	1.80	0.69	1.72	0.69	1.80	0.98	2.19	1.21
135.0	1.19	1.87	0.83	1.72	0.83	1.87	1.19	2.26	1.36
140.0	1.40	2.01	1.10	1.86	1.10	2.01	1.40	2.40	1.57
145.0	1.82	2.29	1.52	2.13	1.52	2.29	1.82	2.40	1.86
150.0	1.96	2.64	2.00	2.55	2.00	2.64	1.96	2.69	2.22
155.0	2.03	2.71	2.28	2.83	2.28	2.71	2.03	2.83	2.58
160.0	2.39	2.91	2.35	2.76	2.35	2.91	2.39	3.11	2.86
165.0	2.81	3.12	2.76	3.24	2.76	3.12	2.81	3.40	3.22
170.0	3.16	3.47	3.11	3.58	3.11	3.47	3.16	3.68	3.51
175.0	3.37	3.75	3.46	3.93	3.46	3.75	3.37	3.82	3.80
180.0	3.65	3.82	3.73	4.07	3.73	3.82	3.65	3.96	3.94

Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:HP  
Test Date:04-02-2018

Test Set: 5.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:8.384 m  
Remarks: KM-48-30K-VHO-C-XX-SA-BL