

customer:

date: 16.10.2023

Harman Professional Denmark ApS.
Olof Palmes Allé 44

8200 Aarhus N
Denmark

project No: 23000131-2

inspection order: Photometric measurement according DIN EN 13032-1,
EN 13032-4:2015 and IES LM-79-08

- measurement of intensity distribution
- measurement of luminous flux

measurement procedure: - measurement with goniophotometer according DIN EN 13032

test sample specification:

luminaire: LED fixture for stage and studio, direct beam

description: ERA 700 IP - medium

Serial No.: 15600768015

DMX settings: dimmer: 255
zoom: 128
focus: 188
fans: regulated

test sample dimensions:

luminaire dimensions:

length:	440 mm
width:	325 mm
height:	755 mm
diameter:	- mm

dimensions of luminant areas:

length:	- mm
width:	- mm
height:	- mm
diameter:	132 mm

measurement configuration:

	area	step size
C- planes	0 - 360°	1°
γ- angle	0 - 15°	1°
	15 - 90°	5°

luminaire position: hanging, light beam vertical

light center: central, bottom of light output

test results:

stabilization time: 30 min.

stability of luminous flux: < 1%

luminous flux:

upper half space	lower half space	overall
-	25035,21 lm	25035,21 lm
-	100 %	100 %

max. luminous intensity: 417436,7 cd @ ($\gamma=5^\circ/C=0^\circ$)
 beam angles:

half beam 50 % :	15,6°
field angle 10% :	18,0°
cutoff angel 3% :	19,4°

symmetry condition: rotational symmetric

luminous efficiency: 28,69 lm/W

electrical operating conditions:

voltage:	230,0 V (const. < 0.1%)
current:	3,886 A
system power:	872,70 W
power factor:	0,977

ambient temperature:

T= 25° C ± 1° C

The company ILUmetriX insures that all statements are made by the best of knowledge, according to European standards.

Meschede, 16.10.2023



F. Siepe (Management Board)



annex:	page 3-10	testreport
	page 11	testsample
	page 12	testequipment

PHOTOMETRIC RESULTS

Manufacturer:	Harman Professional ApS	Voltage:	230,07 V
Name:	ERA 700 IP medium	Current:	3,880 A
Report:	23000131-2	System Power:	872,7 W
Date:	13.10.2023 10:20:26		
Operator:	F. Siepe	No. of lamps:	1
		ERA 700 IP medium	
Luminaire dimensions:			
Length:	440 mm		
Height:	755 mm		
Width:	325 mm		
Diameter:	0 mm		

Luminaire data

LiTG-class:	A60		
UTE-class:	Not available		
IES-class:	100 - 100 - 100 - 100 - 100		
TM5-class:	Not available		
Divergences in the plane through maximum intensity:	Horizontal	Vertical	
One half peak divergence:	15,6°	15,6°	
Half peak side angle (left):	-7,8°	-7,8°	
Half peak side angle (right):	7,8°	7,8°	
One tenth peak divergence:	18,0°	18,0°	
Tenth peak side angle (left):	-9,0°	-9,0°	
Tenth peak side angle (right):	9,0°	9,0°	

PHOTOMETRIC RESULTS

Manufacturer:	Harman Professional ApS	Voltage:	230,07 V
Name:	ERA 700 IP medium	Current:	3,880 A
Report:	23000131-2	System Power:	872,7 W
Date:	13.10.2023 10:20:26		
Operator:	F. Siepe	No. of lamps:	1
		ERA 700 IP medium	
Luminaire dimensions:			
Length:	440 mm		
Height:	755 mm		
Width:	325 mm		
Diameter:	0 mm		

Intensity [cd] ERA 700 IP medium

G/C [cd]	0,0
0,0	410672,1
1,0	410793,9
2,0	412053,5
3,0	414191,5
4,0	417355,8
5,0	417436,7
6,0	405662,4
7,0	373837,2
8,0	167788,0
9,0	39542,4
10,0	237,8
11,0	145,0
12,0	93,6
13,0	65,0
14,0	45,7
15,0	33,9
20,0	18,4
25,0	13,1
30,0	8,6
35,0	5,1
40,0	3,7
45,0	2,8
50,0	2,5
55,0	2,4
60,0	1,3
65,0	0,7
70,0	0,3
75,0	0,1
80,0	0,0
85,0	0,0
90,0	0,0

PHOTOMETRIC RESULTS

Manufacturer:	Harman Professional ApS	Voltage:	230,07 V
Name:	ERA 700 IP medium	Current:	3,880 A
Report:	23000131-2	System Power:	872,7 W
Date:	13.10.2023 10:20:26		
Operator:	F. Siepe	No. of lamps:	1
		ERA 700 IP medium	
Luminaire dimensions:			
Length:	440 mm		
Height:	755 mm		
Width:	325 mm		
Diameter:	0 mm		

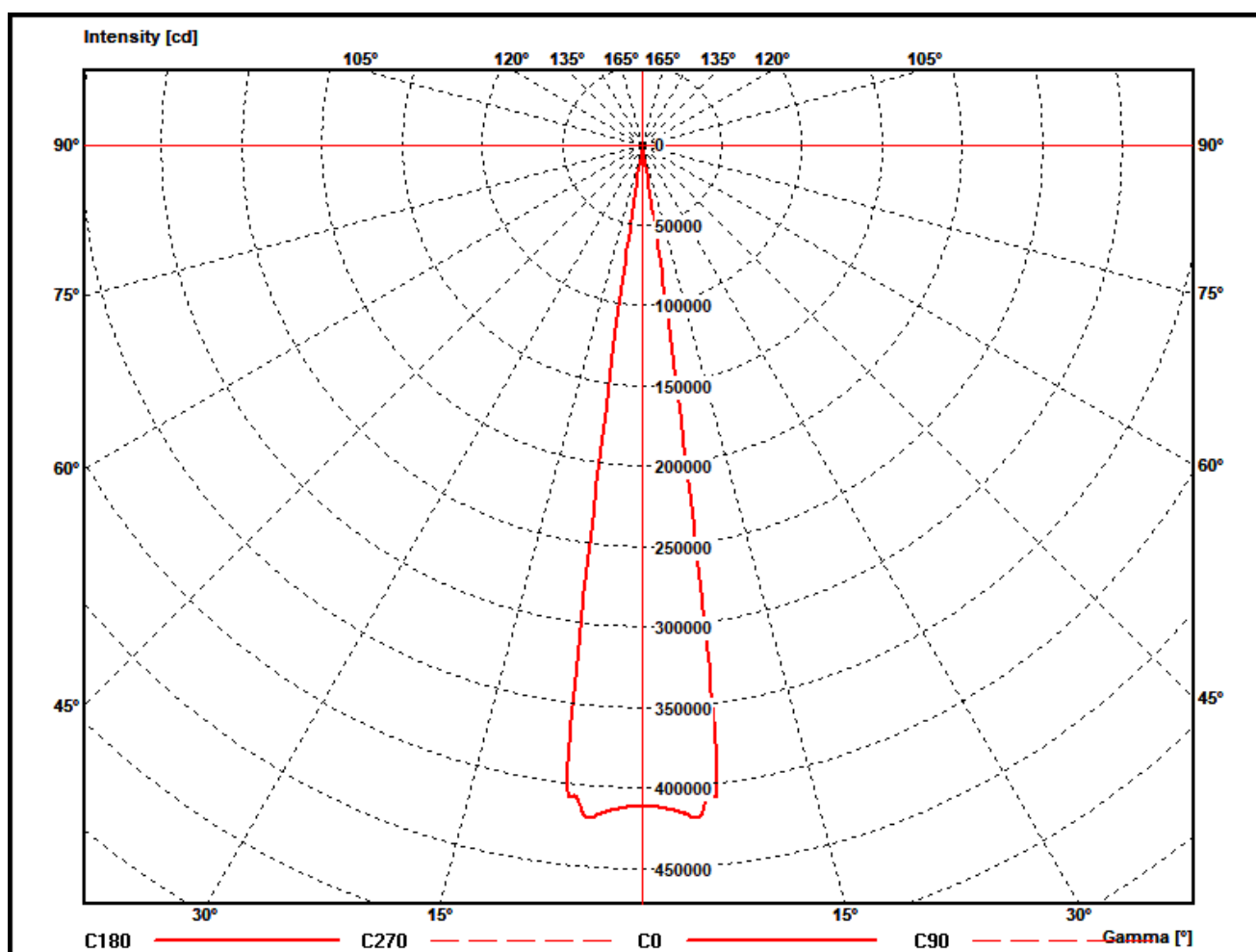
Zonal flux ERA 700 IP medium

Gamma [°]	Imin [cd]	Imax [cd]	Imean [cd]	Zonal flux [lm]	Sum. zonal flux [lm]	Rel. zonal flux [%]	Sum. rel. zonal flux [%]
0,0	410672,1	410672,1	410672,1	0,0	0,00	0,00	0,00
1,0	410793,9	410793,9	410793,9	393,1	393,05	1,57	1,57
2,0	412053,5	412053,5	412053,5	1181,0	1574,08	4,72	6,29
3,0	414191,5	414191,5	414191,5	1976,1	3550,19	7,89	14,18
4,0	417355,8	417355,8	417355,8	2783,5	6333,64	11,12	25,30
5,0	417436,7	417436,7	417436,7	3591,2	9924,87	14,34	39,64
6,0	405662,4	405662,4	405662,4	4325,6	14250,48	17,28	56,92
7,0	373837,2	373837,2	373837,2	4838,3	19088,82	19,33	76,25
8,0	167788,0	167788,0	167788,0	3876,3	22965,13	15,48	91,73
9,0	39542,4	39542,4	39542,4	1680,3	24645,43	6,71	98,44
10,0	237,8	237,8	237,8	360,0	25005,42	1,44	99,88
11,0	145,0	145,0	145,0	3,8	25009,25	0,02	99,90
12,0	93,6	93,6	93,6	2,6	25011,86	0,01	99,91
13,0	65,0	65,0	65,0	1,9	25013,74	0,01	99,91
14,0	45,7	45,7	45,7	1,4	25015,15	0,01	99,92
15,0	33,9	33,9	33,9	1,1	25016,25	0,00	99,92
20,0	18,4	18,4	18,4	4,3	25020,56	0,02	99,94
25,0	13,1	13,1	13,1	3,3	25023,87	0,01	99,95
30,0	8,6	8,6	8,6	2,7	25026,62	0,01	99,97
35,0	5,1	5,1	5,1	2,0	25028,65	0,01	99,97
40,0	3,7	3,7	3,7	1,5	25030,12	0,01	99,98
45,0	2,8	2,8	2,8	1,2	25031,32	0,00	99,98
50,0	2,5	2,5	2,5	1,1	25032,39	0,00	99,99
55,0	2,4	2,4	2,4	1,1	25033,46	0,00	99,99
60,0	1,3	1,3	1,3	0,9	25034,31	0,00	100,00
65,0	0,7	0,7	0,7	0,5	25034,79	0,00	100,00
70,0	0,3	0,3	0,3	0,3	25035,05	0,00	100,00
75,0	0,1	0,1	0,1	0,1	25035,16	0,00	100,00
80,0	0,0	0,0	0,0	0,0	25035,19	0,00	100,00
85,0	0,0	0,0	0,0	0,0	25035,21	0,00	100,00
90,0	0,0	0,0	0,0	0,0	25035,21	0,00	100,00

PHOTOMETRIC RESULTS

Manufacturer:	Harman Professional ApS	Voltage:	230,07 V
Name:	ERA 700 IP medium	Current:	3,880 A
Report:	23000131-2	System Power:	872,7 W
Date:	13.10.2023 10:20:26		
Operator:	F. Siepe	No. of lamps:	1
		ERA 700 IP medium	
Luminaire dimensions:			
Length:	440 mm		
Height:	755 mm		
Width:	325 mm		
Diameter:	0 mm		

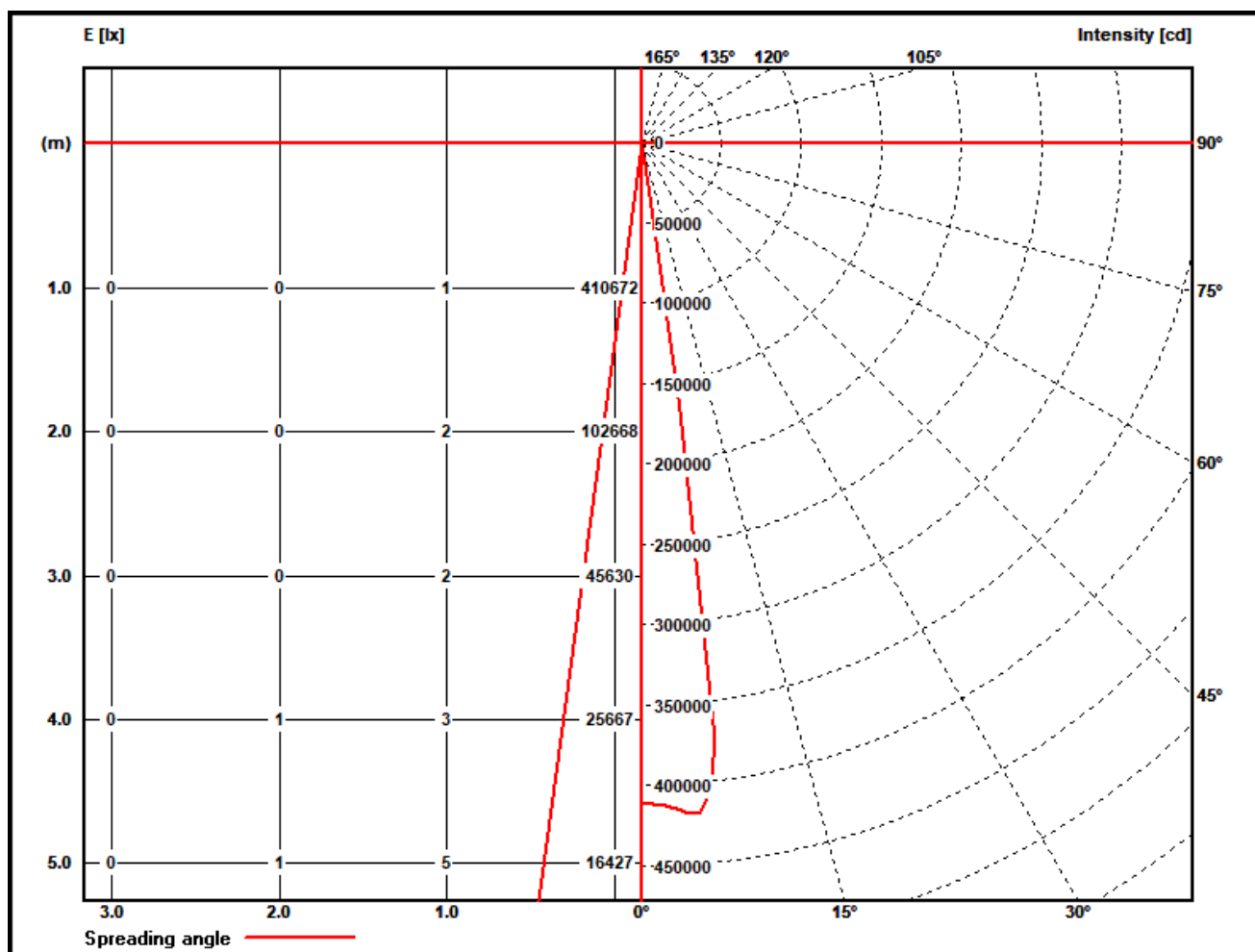
Polar diagram ERA 700 IP medium



PHOTOMETRIC RESULTS

Manufacturer:	Harman Professional ApS	Voltage:	230,07 V
Name:	ERA 700 IP medium	Current:	3,880 A
Report:	23000131-2	System Power:	872,7 W
Date:	13.10.2023 10:20:26		
Operator:	F. Siepe	No. of lamps:	1
		ERA 700 IP medium	
Luminaire dimensions:			
Length:	440 mm		
Height:	755 mm		
Width:	325 mm		
Diameter:	0 mm		

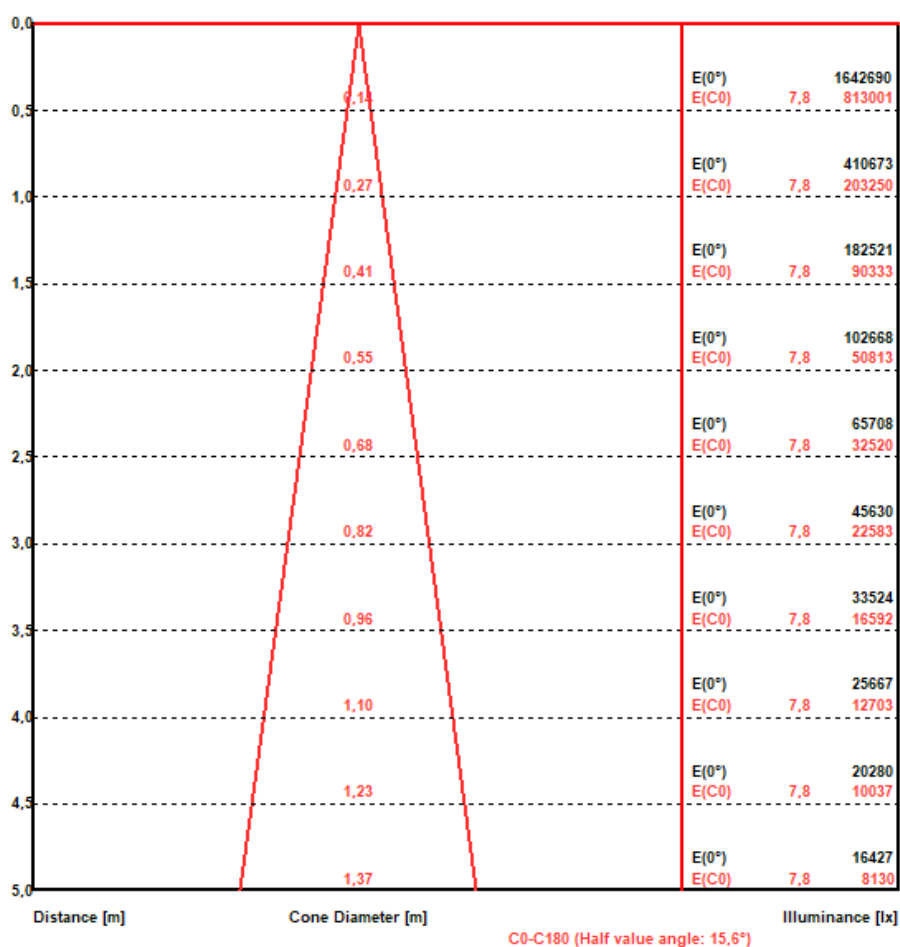
Illuminance and Intensity diagram ERA 700 IP medium



PHOTOMETRIC RESULTS

Manufacturer:	Harman Professional ApS	Voltage:	230,07 V
Name:	ERA 700 IP medium	Current:	3,880 A
Report:	23000131-2	System Power:	872,7 W
Date:	13.10.2023 10:20:26		
Operator:	F. Siepe	No. of lamps:	1
		ERA 700 IP medium	
Luminaire dimensions:			
Length:	440 mm		
Height:	755 mm		
Width:	325 mm		
Diameter:	0 mm		

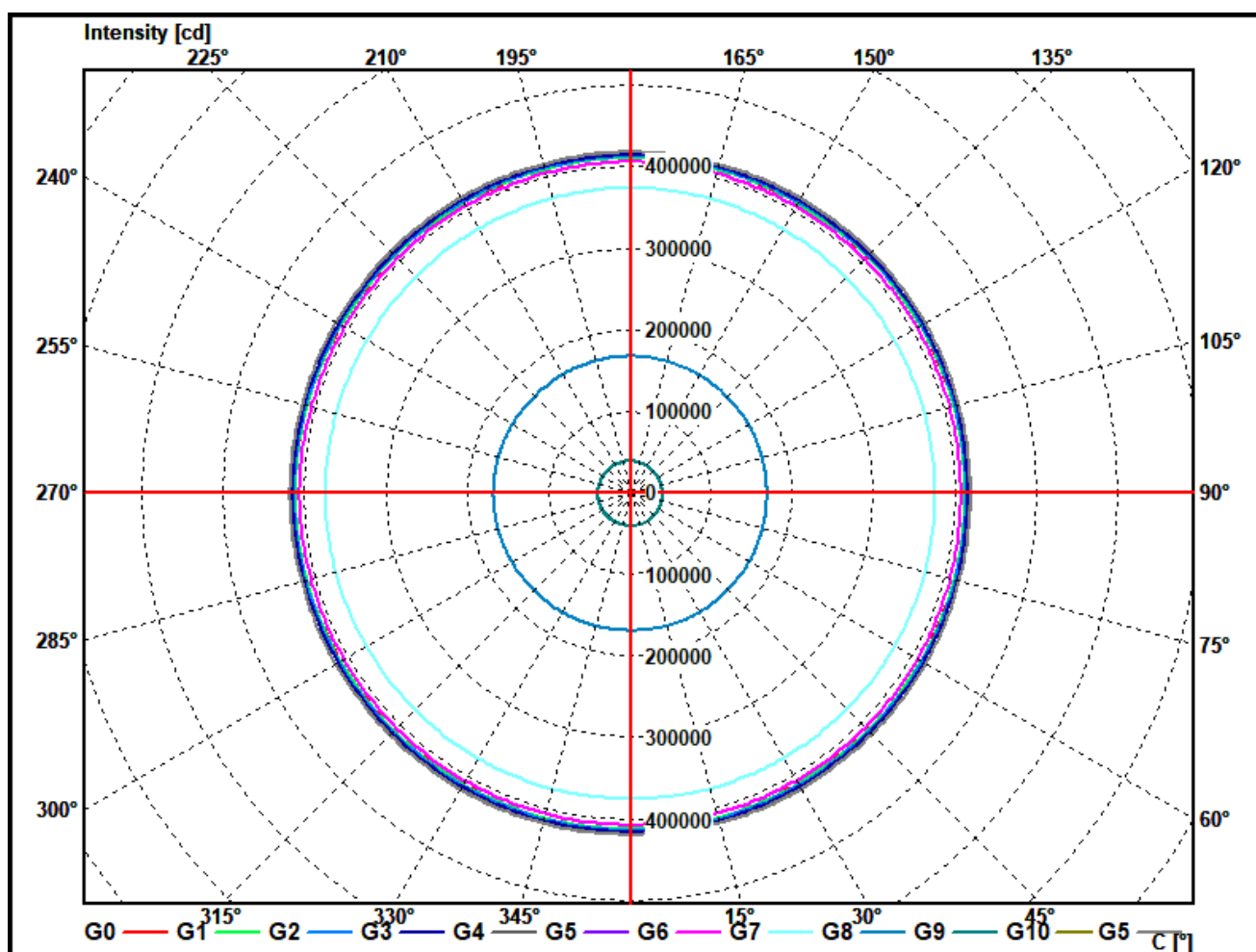
Illuminance cone diagram ERA 700 IP medium



PHOTOMETRIC RESULTS

Manufacturer:	Harman Professional ApS	Voltage:	230,07 V
Name:	ERA 700 IP medium	Current:	3,880 A
Report:	23000131-2	System Power:	872,7 W
Date:	13.10.2023 10:20:26		
Operator:	F. Siepe	No. of lamps:	1
		ERA 700 IP medium	
Luminaire dimensions:			
Length:	440 mm		
Height:	755 mm		
Width:	325 mm		
Diameter:	0 mm		

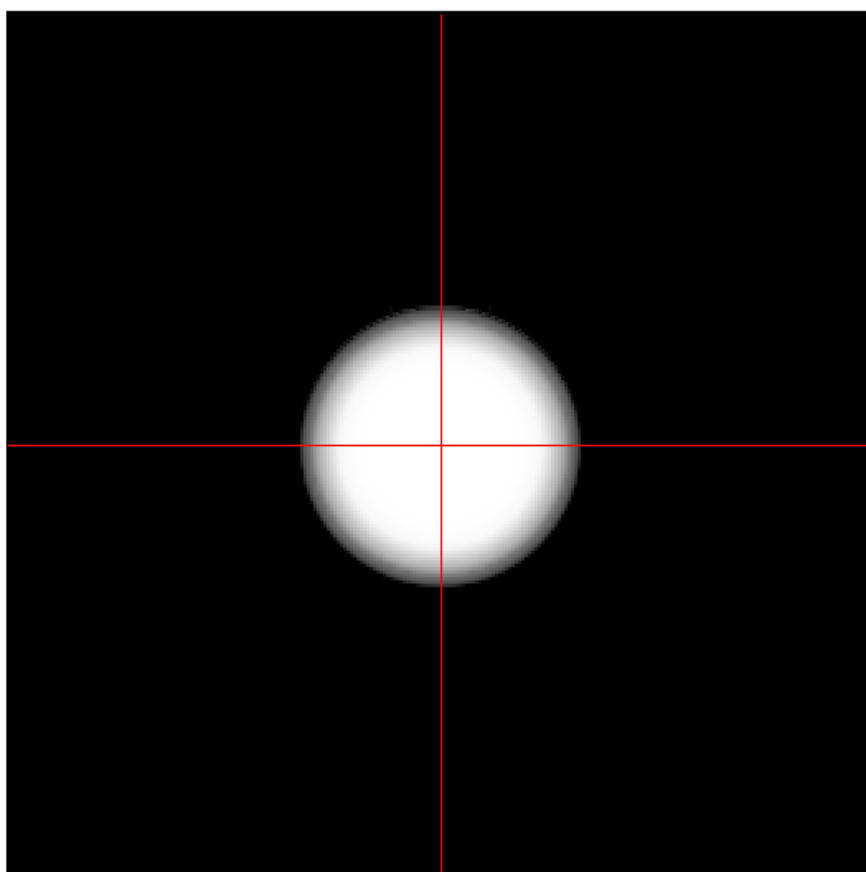
Cone diagram ERA 700 IP medium



PHOTOMETRIC RESULTS

Manufacturer:	Harman Professional ApS	Voltage:	230,07 V
Name:	ERA 700 IP medium	Current:	3,880 A
Report:	23000131-2	System Power:	872,7 W
Date:	13.10.2023 10:20:26		
Operator:	F. Siepe	No. of lamps:	1
		ERA 700 IP medium	
Luminaire dimensions:			
Length:	440 mm		
Height:	755 mm		
Width:	325 mm		
Diameter:	0 mm		

Isoline diagram ERA 700 IP medium



Luminaire mounting height above ground: 15 m
Luminaire rotation angle: 0 °

testsample:

dimensions [L x W x H]: 440 x 325 x 755 mm



test equipment - ILUmetriX GmbH

- goniophotometer with mirror arrangement GO-DS 2000 No.: 09A84831	Manufacturer: LMT GmbH, Berlin
- Photometer head GO-DS 2000, Nr.: 09A84812	Manufacturer: LMT GmbH, Berlin
- integrating sphere UL 1650/2250, Nr.: 09A8482	Manufacturer: LMT GmbH, Berlin
- colormeter C 1210 with colorimeterhead CH60	Manufacturer: LMT GmbH, Berlin
- power supply, Chroma 6415	Manufacturer: Chroma ATE INC.
- powermeter, Yokogawa WT 2010	Manufacturer: Yokogawa, Japan

calibration data:

goniophotometer with mirror arrangement

photometer unit with photometer head SP30S0T-GODS Serial No.: 09A84811 mit 09A84812	October 2018
--	--------------

integrating sphere

colormeter with colorimeterhead Type: C 1210 with CH 60 serial No. 09A84831 mit 09A84832	October 2018
--	--------------