

Customer:

date: 25.06.2025

Harman Professional Denmark ApS.
Olof Palmes Allé 44

8200 Aarhus N
Denmark

Project No: 25000091-2

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: MAC Aura Raven XIP - medium beam

Serial No.: 15079820060

DMX Settings: dimmer coarse: 65536
red, green, blue: 65536
zoom coarse: 32768
fans: full fans

Test Sample Dimensions:

Luminaire Dimensions:

length:	510 mm
width:	280 mm
height:	500 mm
diameter:	- mm

Dimensions of luminant areas:

length:	- mm
width:	- mm
height:	- mm
diameter:	347 mm

Measurement Configuration:

	area	step size
C- planes	0 - 360°	1°
γ- angle	0 - 20°	1°
	20 - 90°	2.5°

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
-	28283,70 lm	28283,70 lm
-	100 %	100 %

Luminous Intensity max.: 323160,6 cd @ (γ=0°/C=0°)

Beam Angles:

Half Beam 50 % : 16,9°

Field Angle 10% : 28,1°

Cutoff Angel 3% : 32,8°

Symmetry Condition: Rotational Symmetric

Luminous Efficacy: 31,17 lm/W

Electrical Operating Conditions:

voltage: 230,0 V (const. < 0.1%)

current: 3,989 A

system power: 907,30 W

power factor: 0,989

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, 25.06.2025



F. Siepe (Management Board)



Annex: page 3-10 Test Report

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page 12 Test Equipment

PHOTOMETRIC RESULTS

Manufacturer:	Harman Professional ApS	Voltage:	229,98 V
Name:	MAC Aura Raven XIP - medium beam	Current:	3,990 A
Report:	25000091-2	System Power:	907,3 W
Date:	24.06.2025 14:04:33		
Operator:	F. Siepe	No. of lamps:	1
		MAC Aura Raven XIP - medium beam	
Luminaire dimensions:			
Length:	510 mm		
Height:	500 mm		
Width:	280 mm		
Diameter:	0 mm		

Luminaire data

LiTG-class:	A60		
UTE-class:	Not available		
IES-class:	99 - 100 - 100 - 100 - 100		
TM5-class:	Not available		
Divergences in the plane through maximum intensity:	Horizontal	Vertical	
One half peak divergence:	16,9°	16,9°	
Half peak side angle (left):	-8,4°	-8,4°	
Half peak side angle (right):	8,4°	8,4°	
One tenth peak divergence:	28,1°	28,1°	
Tenth peak side angle (left):	-14,0°	-14,0°	
Tenth peak side angle (right):	14,0°	14,0°	

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Luminaire dimensions:			
Length:	510 mm		
Height:	500 mm		
Width:	280 mm		
Diameter:	0 mm		

Intensity [cd] MAC Aura Raven XIP - medium beam

G/C [cd]	0,0
0,0	323160,6
1,0	320625,8
2,0	312095,7
3,0	298101,7
4,0	276888,8
5,0	256047,0
6,0	229927,2
7,0	201644,2
8,0	172921,1
9,0	146690,7
10,0	118850,4
11,0	92779,8
12,0	65397,5
13,0	46032,7
14,0	32797,9
15,0	20481,2
16,0	11943,7
17,0	5944,8
18,0	2956,6
19,0	1350,9
20,0	625,6
22,5	256,5
25,0	172,9
27,5	137,3
30,0	120,4
32,5	110,7
35,0	109,3
37,5	122,9
40,0	154,7
42,5	190,2
45,0	220,0
47,5	223,8
50,0	209,9
52,5	192,7
55,0	171,0
57,5	142,4
60,0	108,0
62,5	78,6
65,0	59,6
67,5	44,1
70,0	30,6
72,5	22,3
75,0	15,6
77,5	9,1
80,0	3,5
82,5	1,0
85,0	0,7

Intensity [cd] MAC Aura Raven XIP - medium beam

G/C [cd]	0,0
87,5	0,3
90,0	0,1

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Luminaire dimensions:			
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Height:	500 mm		
Width:	280 mm		
Diameter:	0 mm		

Zonal flux MAC Aura Raven XIP - medium beam

Gamma [°]	Imin [cd]	Imax [cd]	Imean [cd]	Zonal flux [lm]	Sum. zonal flux [lm]	Rel. zonal flux [%]	Sum. rel. zonal flux [%]
0,0	323160,6	323160,6	323160,6	0,0	0,00	0,00	0,00
1,0	320625,8	320625,8	320625,8	308,0	308,04	1,09	1,09
2,0	312095,7	312095,7	312095,7	908,1	1216,18	3,21	4,30
3,0	298101,7	298101,7	298101,7	1459,4	2675,57	5,16	9,46
4,0	276888,8	276888,8	276888,8	1924,7	4600,25	6,80	16,26
5,0	256047,0	256047,0	256047,0	2292,7	6892,91	8,11	24,37
6,0	229927,2	229927,2	229927,2	2553,9	9446,83	9,03	33,40
7,0	201644,2	201644,2	201644,2	2678,8	12125,59	9,47	42,87
8,0	172921,1	172921,1	172921,1	2680,7	14806,28	9,48	52,35
9,0	146690,7	146690,7	146690,7	2590,3	17396,56	9,16	61,51
10,0	118850,4	118850,4	118850,4	2403,1	19799,61	8,50	70,00
11,0	92779,8	92779,8	92779,8	2114,6	21914,23	7,48	77,48
12,0	65397,5	65397,5	65397,5	1729,1	23643,33	6,11	83,59
13,0	46032,7	46032,7	46032,7	1322,4	24965,73	4,68	88,27
14,0	32797,9	32797,9	32797,9	1009,0	25974,76	3,57	91,84
15,0	20481,2	20481,2	20481,2	731,4	26706,19	2,59	94,42
16,0	11943,7	11943,7	11943,7	475,1	27181,31	1,68	96,10
17,0	5944,8	5944,8	5944,8	278,6	27459,88	0,98	97,09
18,0	2956,6	2956,6	2956,6	146,8	27606,64	0,52	97,61
19,0	1350,9	1350,9	1350,9	74,9	27681,59	0,26	97,87
20,0	625,6	625,6	625,6	36,2	27717,76	0,13	98,00
22,5	256,5	256,5	256,5	43,8	27761,58	0,15	98,15
25,0	172,9	172,9	172,9	23,7	27785,29	0,08	98,24
27,5	137,3	137,3	137,3	18,8	27804,09	0,07	98,30
30,0	120,4	120,4	120,4	17,0	27821,08	0,06	98,36
32,5	110,7	110,7	110,7	16,4	27837,51	0,06	98,42
35,0	109,3	109,3	109,3	16,7	27854,26	0,06	98,48
37,5	122,9	122,9	122,9	18,8	27873,08	0,07	98,55
40,0	154,7	154,7	154,7	23,8	27896,89	0,08	98,63
42,5	190,2	190,2	190,2	31,2	27928,06	0,11	98,74
45,0	220,0	220,0	220,0	38,9	27966,95	0,14	98,88
47,5	223,8	223,8	223,8	43,9	28010,89	0,16	99,04
50,0	209,9	209,9	209,9	44,7	28055,58	0,16	99,19
52,5	192,7	192,7	192,7	43,0	28098,62	0,15	99,35
55,0	171,0	171,0	171,0	40,2	28138,81	0,14	99,49
57,5	142,4	142,4	142,4	35,7	28174,53	0,13	99,61
60,0	108,0	108,0	108,0	29,3	28203,87	0,10	99,72
62,5	78,6	78,6	78,6	22,4	28226,30	0,08	99,80
65,0	59,6	59,6	59,6	17,0	28243,30	0,06	99,86
67,5	44,1	44,1	44,1	13,0	28256,31	0,05	99,90
70,0	30,6	30,6	30,6	9,5	28265,85	0,03	99,94
72,5	22,3	22,3	22,3	6,9	28272,72	0,02	99,96
75,0	15,6	15,6	15,6	5,0	28277,70	0,02	99,98
77,5	9,1	9,1	9,1	3,3	28280,99	0,01	99,99
80,0	3,5	3,5	3,5	1,7	28282,67	0,01	100,00

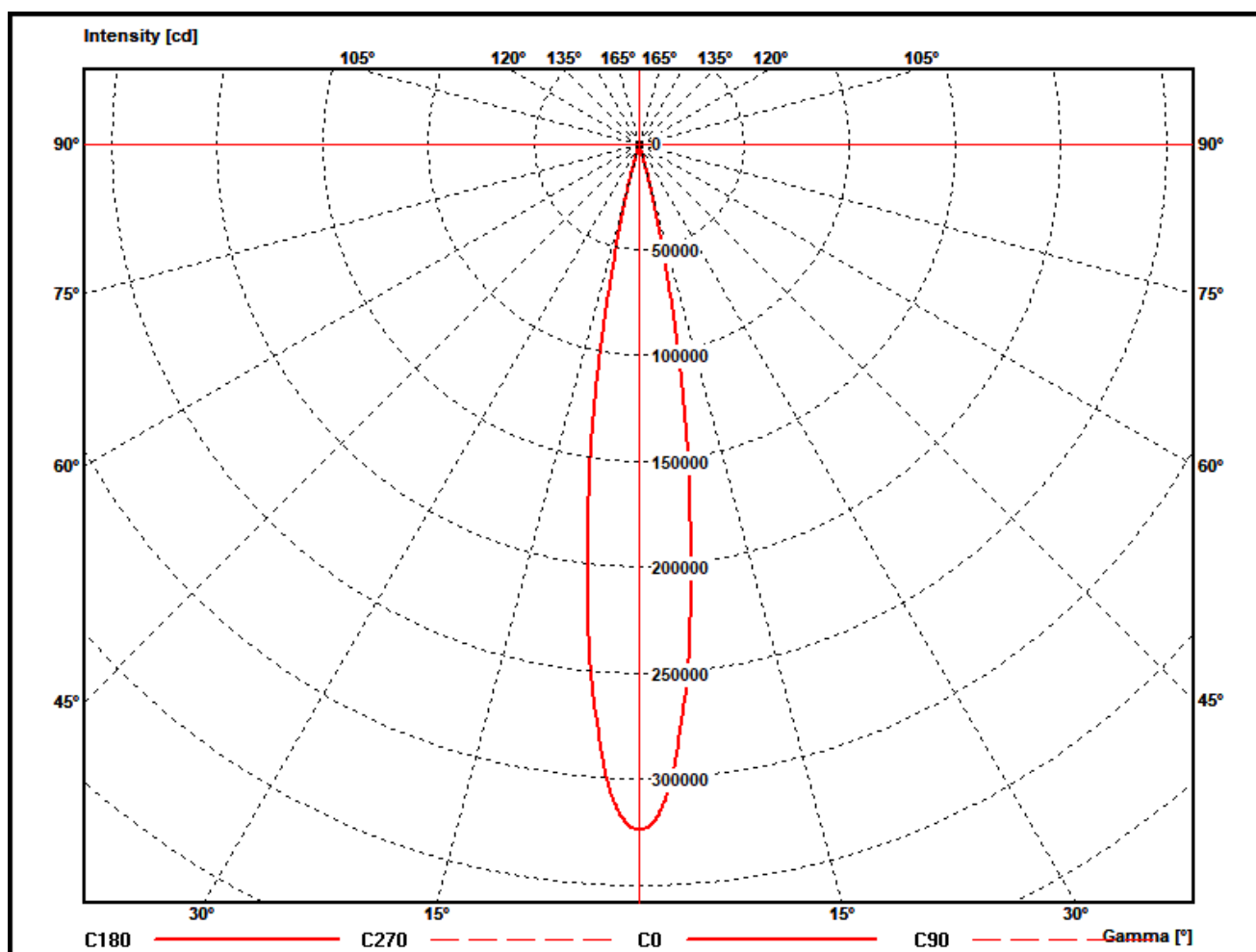
Zonal flux MAC Aura Raven XIP - medium beam

Gamma [°]	Imin [cd]	Imax [cd]	Imean [cd]	Zonal flux [lm]	Sum. zonal flux [lm]	Rel. zonal flux [%]	Sum. rel. zonal flux [%]
82,5	1,0	1,0	1,0	0,6	28283,28	0,00	100,00
85,0	0,7	0,7	0,7	0,2	28283,51	0,00	100,00
87,5	0,3	0,3	0,3	0,1	28283,64	0,00	100,00
90,0	0,1	0,1	0,1	0,1	28283,70	0,00	100,00

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Luminaire dimensions:			
Length:	510 mm		
Height:	500 mm		
Width:	280 mm		
Diameter:	0 mm		

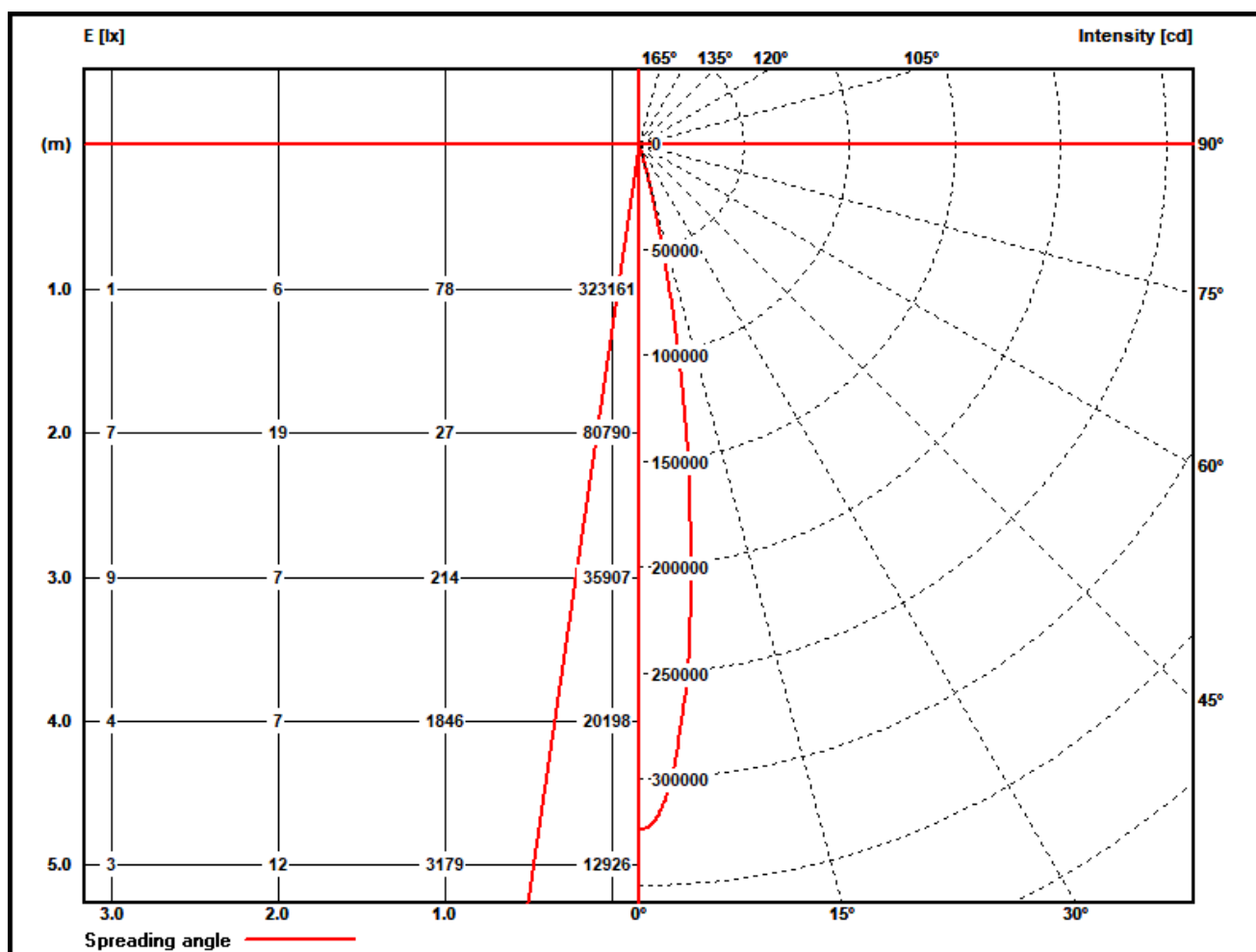
Polar diagram MAC Aura Raven XIP - medium beam



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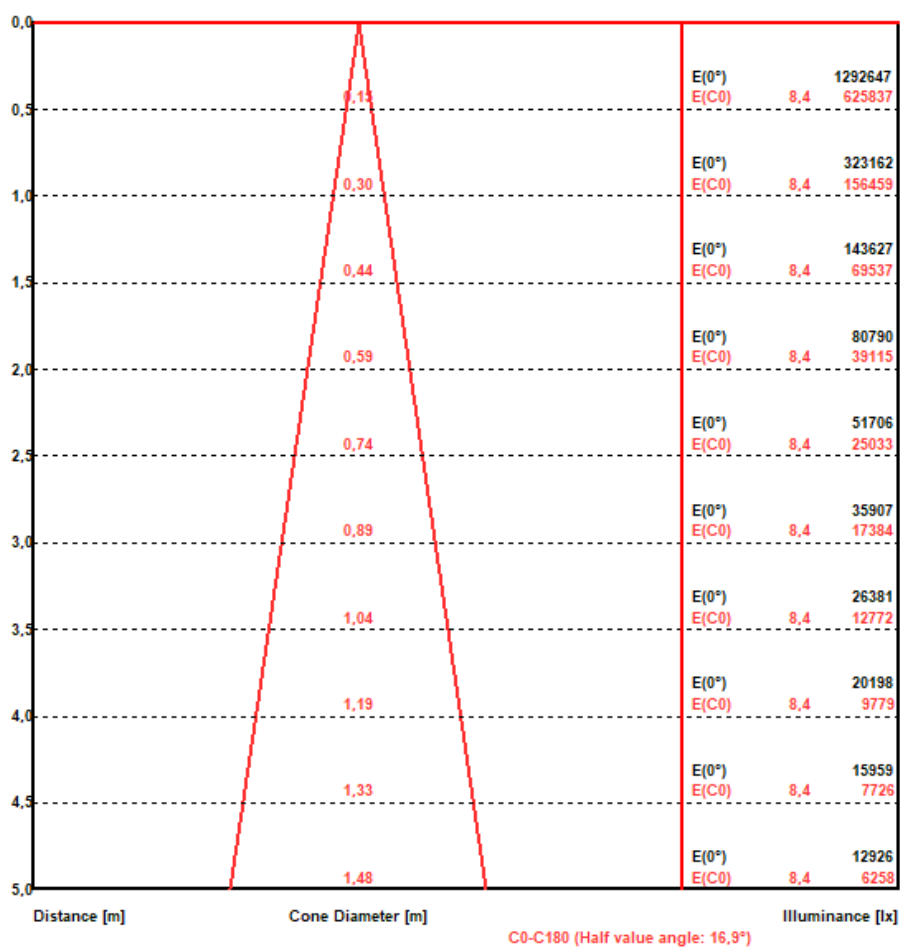
Illuminance and Intensity diagram MAC Aura Raven XIP - medium beam



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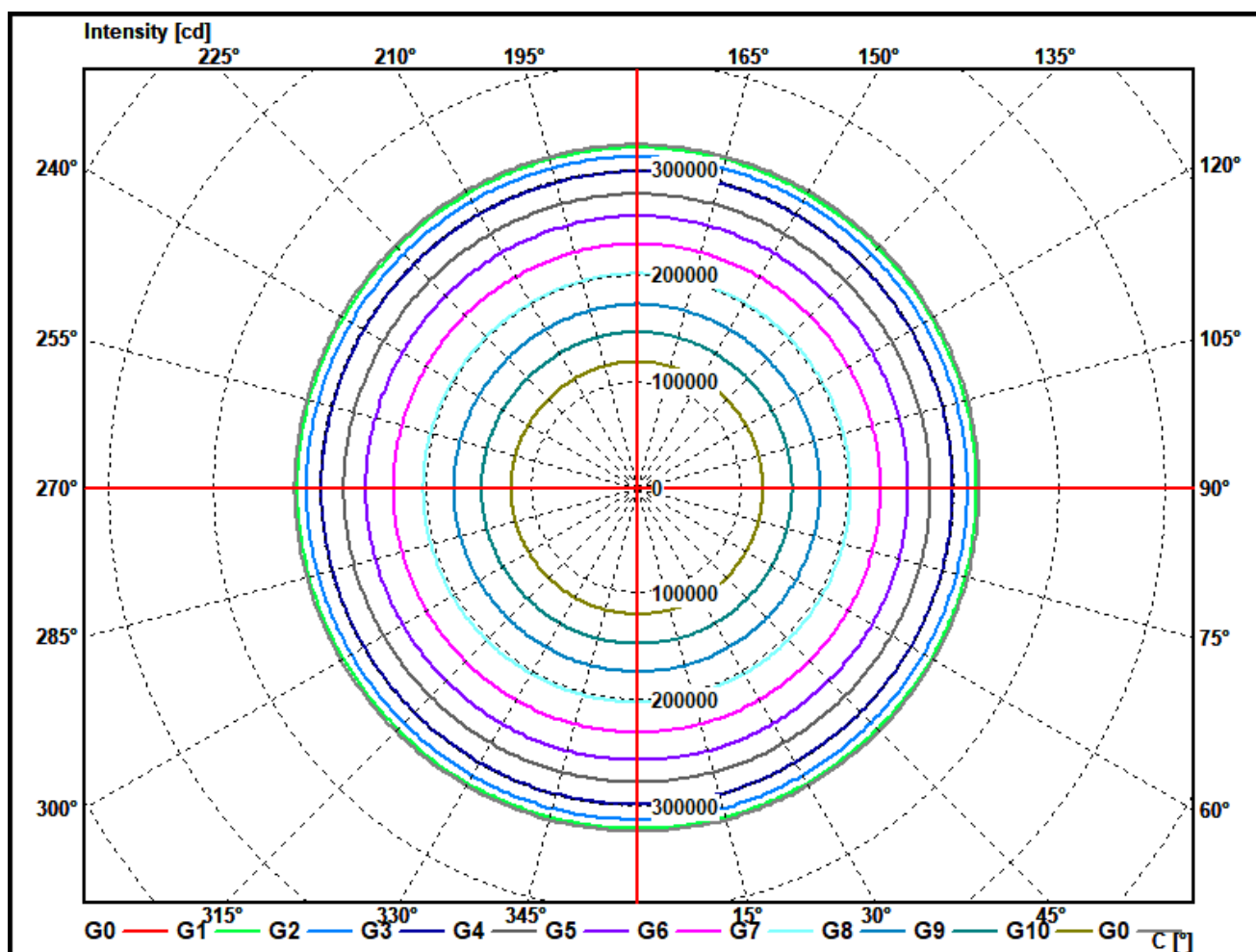
Illuminance cone diagram MAC Aura Raven XIP - medium beam



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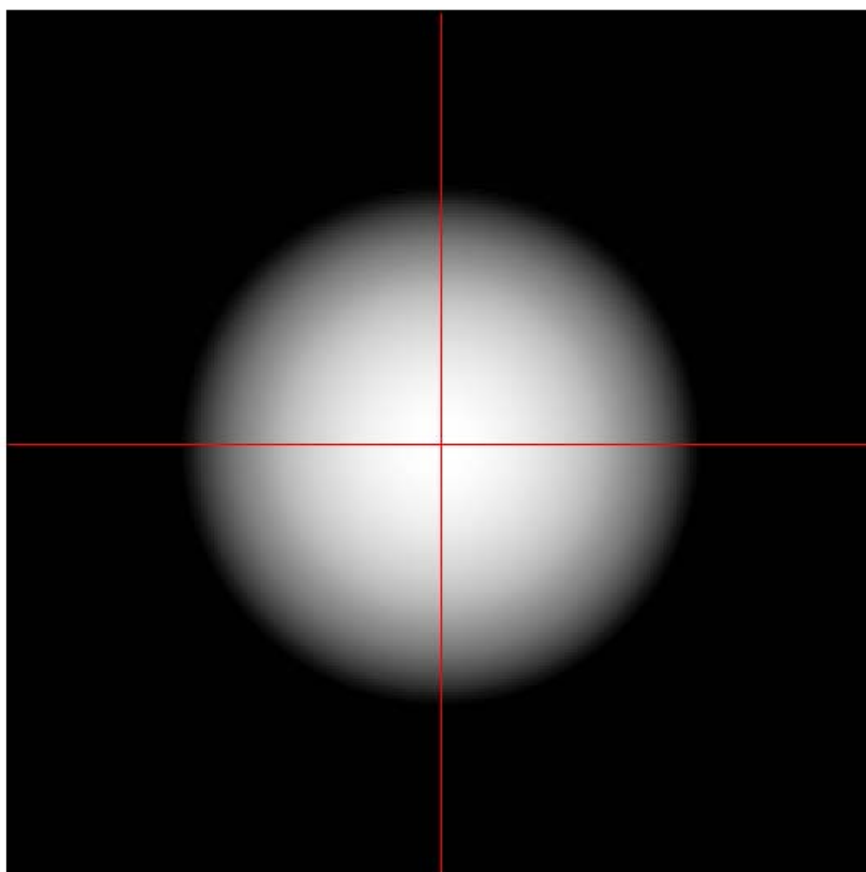
Cone diagram MAC Aura Raven XIP - medium beam



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Operator:	F. Siepe	No. of lamps:	1
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Luminaire dimensions:			
Length:	510 mm		
Height:	500 mm		
Width:	280 mm		
Diameter:	0 mm		

Isoline diagram MAC Aura Raven XIP - medium beam



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

testsample:

dimensions [L x W x H]: 510 x 280 x 500 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