

Customer:

date: 25.06.2025

Harman Professional Denmark ApS.
Olof Palmes Allé 44

8200 Aarhus N
Denmark

Project No: 25000091-3

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 - wide beam

Serial No.: 15079820060

DMX Settings: dimmer coarse: 65536
 red, green, blue: 65536
 zoom coarse: 65536
 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 - 40°	1°
	40 - 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
-	28302,58 lm	28302,58 lm
-	100 %	100 %

Luminous Intensity max.: 89352,1 cd @ (γ=0°/C=0°)

Beam Angles:
Half Beam 50 % : 34,2°
Field Angle 10% : 50,6°
Cutoff Angel 3% : 60,4°

Symmetry Condition: Rotational Symmetric

Luminous Efficacy: 31,19 lm/W

Electrical Operating Conditions:

voltage: 230,0 V (const. < 0.1%)
current: 3,990 A
system power: 907,50 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
page 11 Test Sample
page 12 Test Equipment

PHOTOMETRIC RESULTS

Manufacturer:	Harman Professional ApS	Voltage:	229,96 V
Name:	MAC Aura Raven XIP - wide beam	Current:	3,989 A
Report:	25000091-3	System Power:	907,5 W
Date:	24.06.2025 13:15:23		
Operator:	F. Siepe	No. of lamps:	1
		MAC Aura Raven XIP - wide 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:	100 - 100 - 100 - 100 - 100		
TM5-class:	BZ1		
Divergences in the plane through maximum intensity:	Horizontal	Vertical	
One half peak divergence:	34,2°	34,2°	
Half peak side angle (left):	-17,1°	-17,1°	
Half peak side angle (right):	17,1°	17,1°	
One tenth peak divergence:	50,6°	50,6°	
Tenth peak side angle (left):	-25,3°	-25,3°	
Tenth peak side angle (right):	25,3°	25,3°	

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

Intensity [cd] MAC Aura Raven XIP - wide beam

G/C [cd]	0,0
0,0	89352,1
1,0	89299,1
2,0	89085,0
3,0	88505,3
4,0	87374,3
5,0	86124,7
6,0	84588,6
7,0	83081,6
8,0	81263,0
9,0	79247,1
10,0	76527,3
11,0	73399,1
12,0	69100,5
13,0	64954,5
14,0	61275,6
15,0	56368,2
16,0	51275,5
17,0	45130,6
18,0	40233,2
19,0	33479,9
20,0	28515,7
21,0	22825,4
22,0	18985,4
23,0	15237,6
24,0	11794,2
25,0	9499,1
26,0	7494,4
27,0	6000,4
28,0	4632,0
29,0	3493,4
30,0	2804,7
31,0	2151,4
32,0	1630,5
33,0	1146,9
34,0	861,7
35,0	588,3
36,0	382,4
37,0	223,5
38,0	149,0
39,0	95,7
40,0	74,1
42,5	60,6
45,0	57,0
47,5	55,8
50,0	46,9
52,5	33,6
55,0	24,1

Intensity [cd] MAC Aura Raven XIP - wide beam

G/C [cd]	0,0
57,5	18,3
60,0	14,0
62,5	11,0
65,0	8,9
67,5	7,2
70,0	5,9
72,5	4,5
75,0	3,3
77,5	2,1
80,0	1,3
82,5	1,2
85,0	0,9
87,5	0,4
90,0	0,1

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Width:	280 mm		
Diameter:	0 mm		

Zonal flux MAC Aura Raven XIP - wide beam

Gamma [°]	Imin [cd]	Imax [cd]	Imean [cd]	Zonal flux [lm]	Sum. zonal flux [lm]	Rel. zonal flux [%]	Sum. rel. zonal flux [%]
0,0	89352,1	89352,1	89352,1	0,0	0,00	0,00	0,00
1,0	89299,1	89299,1	89299,1	85,5	85,48	0,30	0,30
2,0	89085,0	89085,0	89085,0	256,0	341,51	0,90	1,21
3,0	88505,3	88505,3	88505,3	424,7	766,25	1,50	2,71
4,0	87374,3	87374,3	87374,3	588,7	1354,98	2,08	4,79
5,0	86124,7	86124,7	86124,7	746,4	2101,36	2,64	7,42
6,0	84588,6	84588,6	84588,6	897,1	2998,50	3,17	10,59
7,0	83081,6	83081,6	83081,6	1040,7	4039,23	3,68	14,27
8,0	81263,0	81263,0	81263,0	1176,2	5215,41	4,16	18,43
9,0	79247,1	79247,1	79247,1	1300,8	6516,26	4,60	23,02
10,0	76527,3	76527,3	76527,3	1409,7	7925,96	4,98	28,00
11,0	73399,1	73399,1	73399,1	1498,1	9424,04	5,29	33,30
12,0	69100,5	69100,5	69100,5	1557,7	10981,76	5,50	38,80
13,0	64954,5	64954,5	64954,5	1590,9	12572,66	5,62	44,42
14,0	61275,6	61275,6	61275,6	1615,7	14188,39	5,71	50,13
15,0	56368,2	56368,2	56368,2	1615,1	15803,46	5,71	55,84
16,0	51275,5	51275,5	51275,5	1577,3	17380,74	5,57	61,41
17,0	45130,6	45130,6	45130,6	1501,3	18882,04	5,30	66,71
18,0	40233,2	40233,2	40233,2	1407,5	20289,50	4,97	71,69
19,0	33479,9	33479,9	33479,9	1282,5	21571,96	4,53	76,22
20,0	28515,7	28515,7	28515,7	1134,7	22706,65	4,01	80,23
21,0	22825,4	22825,4	22825,4	985,9	23692,51	3,48	83,71
22,0	18985,4	18985,4	18985,4	840,2	24532,71	2,97	86,68
23,0	15237,6	15237,6	15237,6	718,1	25250,80	2,54	89,22
24,0	11794,2	11794,2	11794,2	591,0	25841,81	2,09	91,31
25,0	9499,1	9499,1	9499,1	484,2	26325,97	1,71	93,02
26,0	7494,4	7494,4	7494,4	401,1	26727,11	1,42	94,43
27,0	6000,4	6000,4	6000,4	330,2	27057,26	1,17	95,60
28,0	4632,0	4632,0	4632,0	269,2	27326,45	0,95	96,55
29,0	3493,4	3493,4	3493,4	212,6	27539,03	0,75	97,30
30,0	2804,7	2804,7	2804,7	170,0	27709,07	0,60	97,90
31,0	2151,4	2151,4	2151,4	137,9	27846,99	0,49	98,39
32,0	1630,5	1630,5	1630,5	108,3	27955,34	0,38	98,77
33,0	1146,9	1146,9	1146,9	81,8	28037,17	0,29	99,06
34,0	861,7	861,7	861,7	60,8	28097,95	0,21	99,28
35,0	588,3	588,3	588,3	45,0	28142,99	0,16	99,44
36,0	382,4	382,4	382,4	30,9	28173,89	0,11	99,55
37,0	223,5	223,5	223,5	19,8	28193,66	0,07	99,62
38,0	149,0	149,0	149,0	12,4	28206,09	0,04	99,66
39,0	95,7	95,7	95,7	8,4	28214,44	0,03	99,69
40,0	74,1	74,1	74,1	5,9	28220,36	0,02	99,71
42,5	60,6	60,6	60,6	12,2	28232,53	0,04	99,75
45,0	57,0	57,0	57,0	11,2	28243,68	0,04	99,79
47,5	55,8	55,8	55,8	11,2	28254,85	0,04	99,83
50,0	46,9	46,9	46,9	10,6	28265,44	0,04	99,87

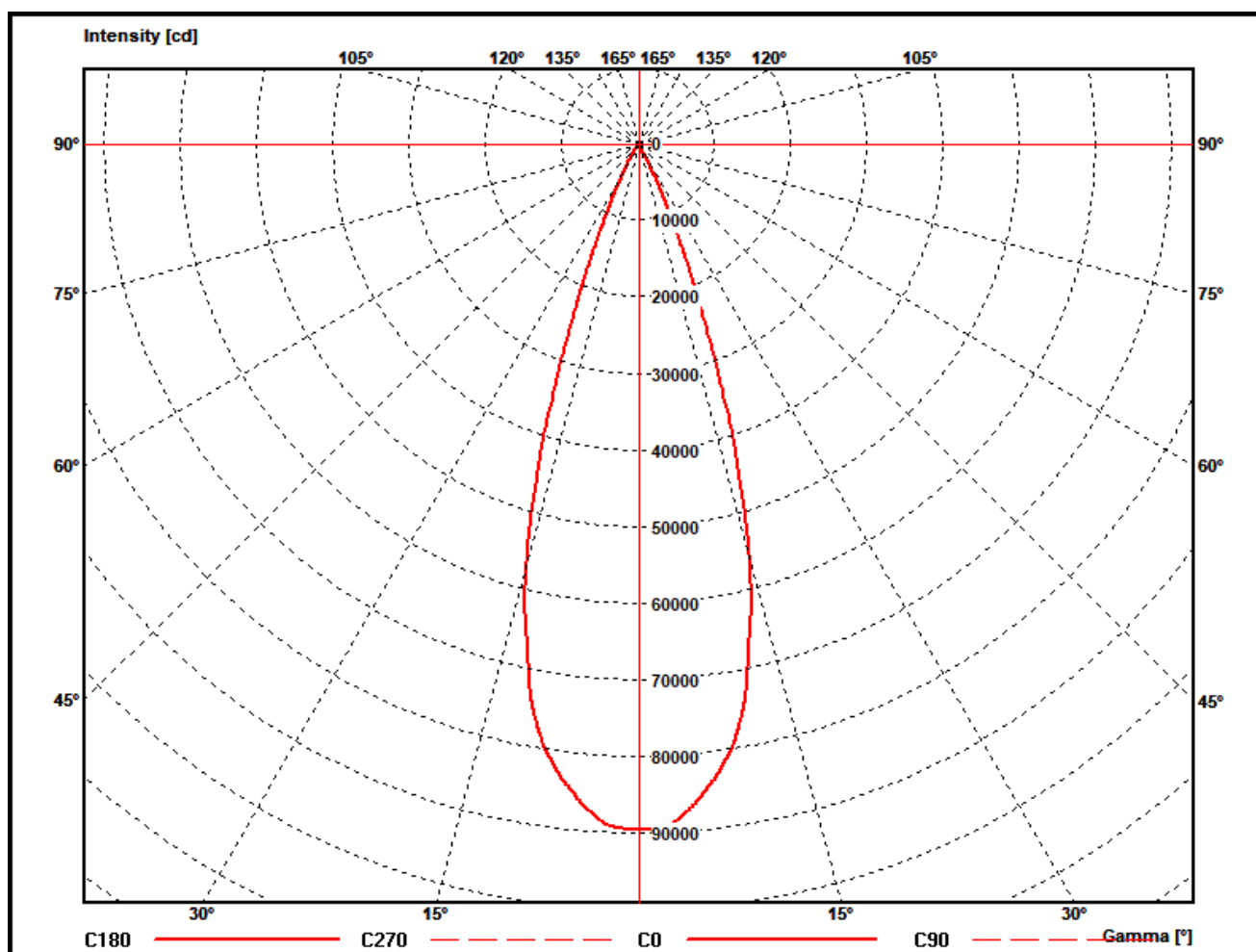
Zonal flux MAC Aura Raven XIP - wide beam

Gamma [°]	Imin [cd]	Imax [cd]	Imean [cd]	Zonal flux [lm]	Sum. zonal flux [lm]	Rel. zonal flux [%]	Sum. rel. zonal flux [%]
52,5	33,6	33,6	33,6	8,6	28274,04	0,03	99,90
55,0	24,1	24,1	24,1	6,4	28280,41	0,02	99,92
57,5	18,3	18,3	18,3	4,8	28285,25	0,02	99,94
60,0	14,0	14,0	14,0	3,8	28289,03	0,01	99,95
62,5	11,0	11,0	11,0	3,0	28292,03	0,01	99,96
65,0	8,9	8,9	8,9	2,4	28294,48	0,01	99,97
67,5	7,2	7,2	7,2	2,0	28296,50	0,01	99,98
70,0	5,9	5,9	5,9	1,7	28298,17	0,01	99,98
72,5	4,5	4,5	4,5	1,4	28299,52	0,00	99,99
75,0	3,3	3,3	3,3	1,0	28300,55	0,00	99,99
77,5	2,1	2,1	2,1	0,7	28301,26	0,00	100,00
80,0	1,3	1,3	1,3	0,5	28301,71	0,00	100,00
82,5	1,2	1,2	1,2	0,3	28302,04	0,00	100,00
85,0	0,9	0,9	0,9	0,3	28302,33	0,00	100,00
87,5	0,4	0,4	0,4	0,2	28302,51	0,00	100,00
90,0	0,1	0,1	0,1	0,1	28302,58	0,00	100,00

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Length:	510 mm		
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Width:	280 mm		
Diameter:	0 mm		

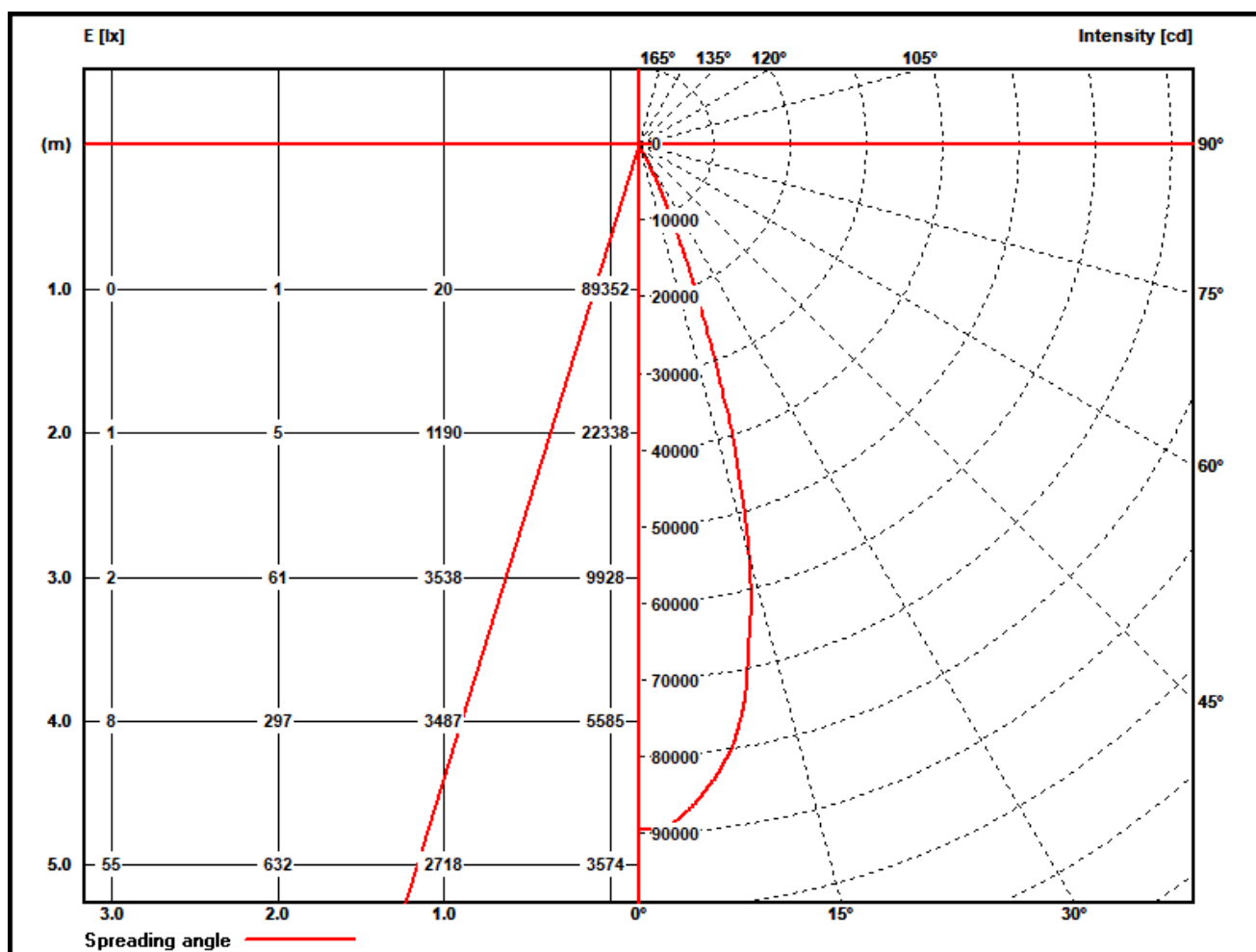
Polar diagram MAC Aura Raven XIP - wide beam



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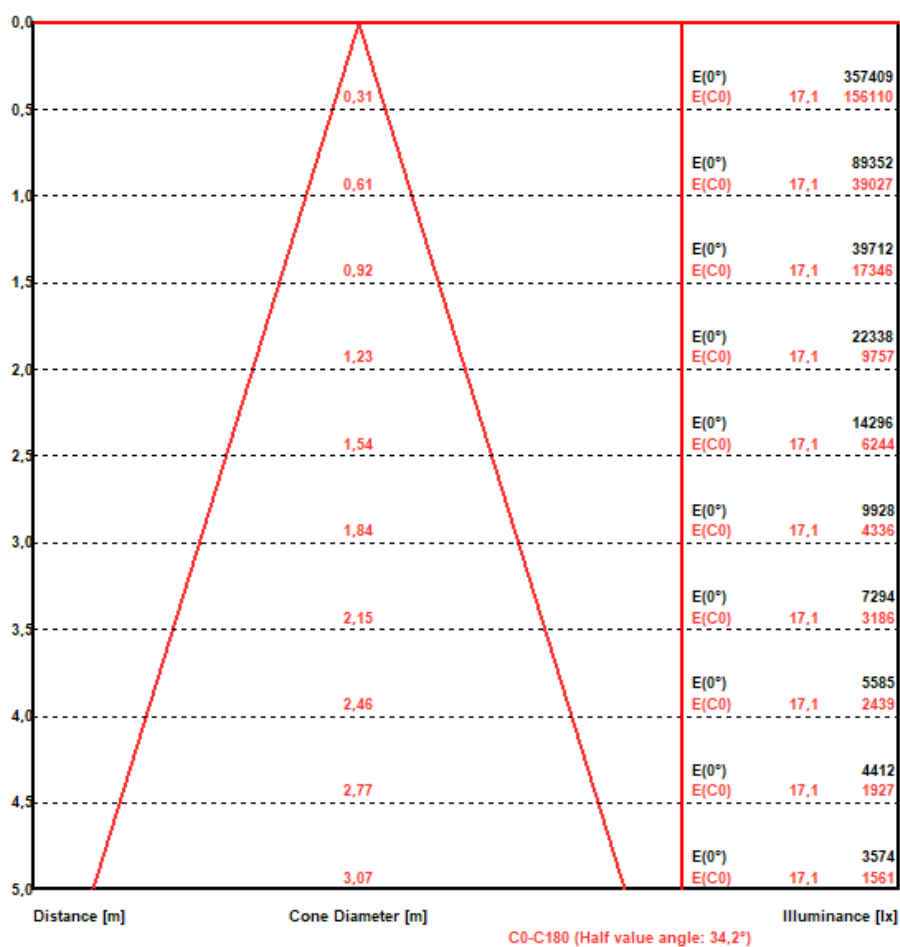
Illuminance and Intensity diagram MAC Aura Raven XIP - wide beam



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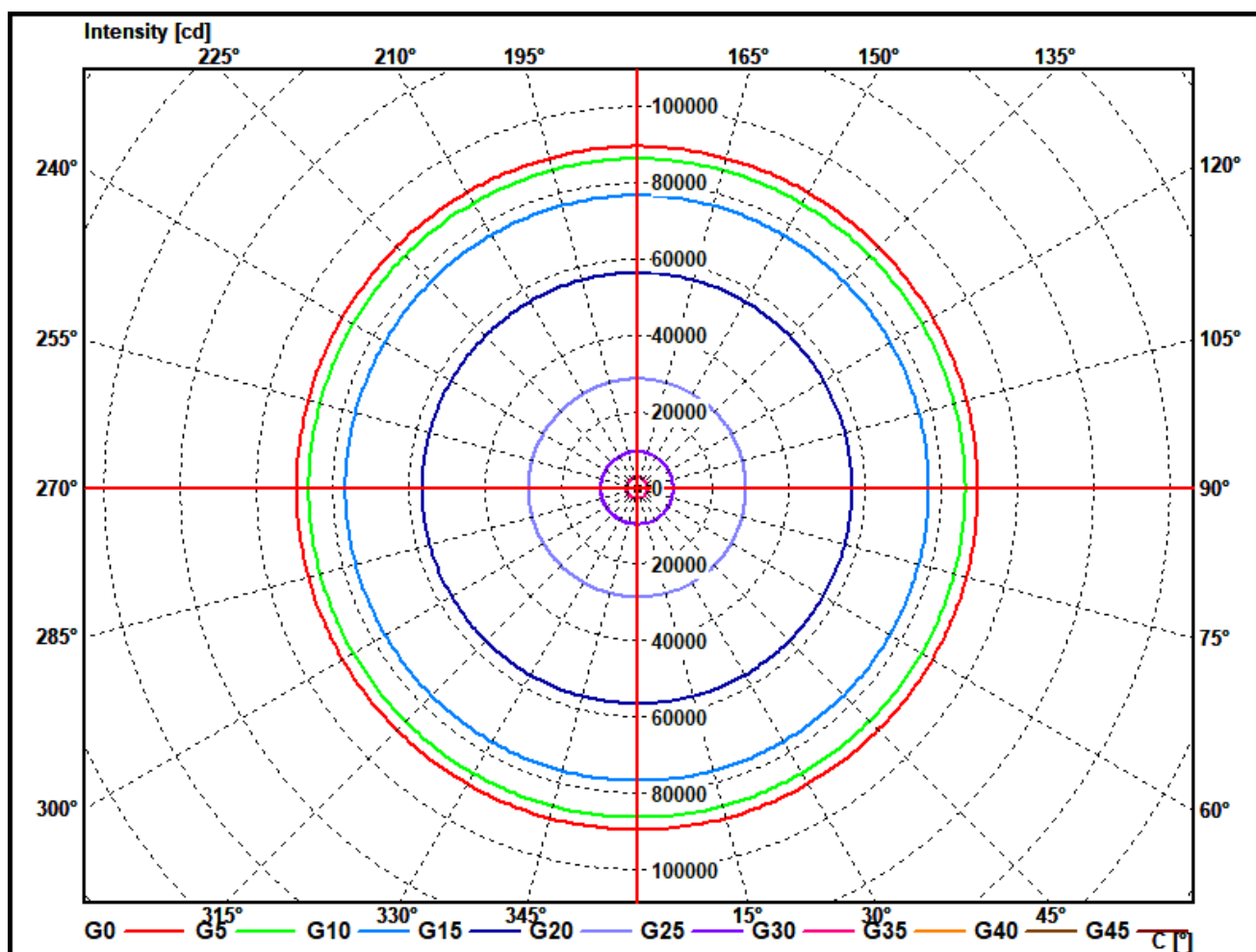
Illuminance cone diagram MAC Aura Raven XIP - wide beam



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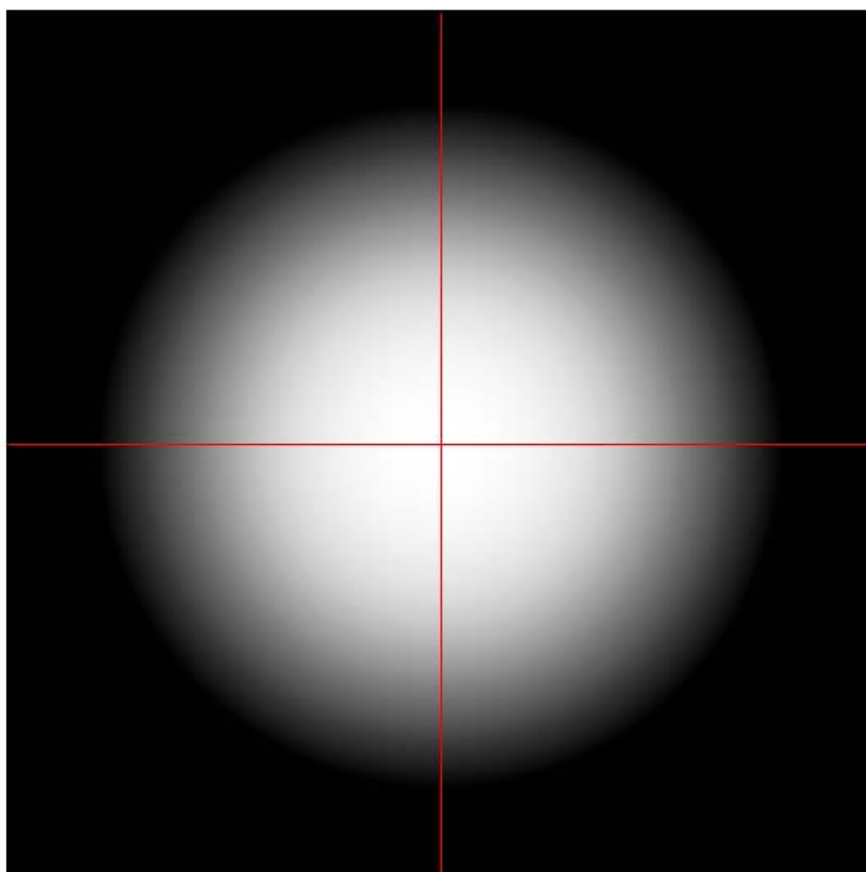
Cone diagram MAC Aura Raven XIP - wide beam



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Operator:	F. Siepe	No. of lamps:	1
		MAC Aura Raven XIP - wide beam	
Luminaire dimensions:			
Length:	510 mm		
Height:	500 mm		
Width:	280 mm		
Diameter:	0 mm		

Isoline diagram MAC Aura Raven XIP - wide beam



Luminaire mounting height above ground: 10 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