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Hawko Lighting Group Australia Pty Ltd

LumCAT: CHROMAFLEX-4000K (GREEN)

Luminaire: LED Strip light

Report No: BSR1706080301-9

Test No: S01

LampCAT:

Lamp flux(lm)

Number of Lamps: 60

Length(mm): 1000

Phm Type: C

Voltage(V): 23.9900

Current(A): 0.1880

Power (W): 4.5100

PF: 1.0000

Ballast type:

Width(mm): 12

Height(mm): 2

Photometric Results

Lumens(lm): 329.98

Lumens(lm)/Power(W): 73.17

Central intensity(cd): 94.289

Maximum intensity(cd): 94.673

Angle of maximum intensity: C=0.0 γ =10.0

Beam Angle(50%Imax): [C0/180]Total=130.5

[C90/270]Total=128.3

Field angle(10%Imax): [C0/180]Total=167.1

[C90/270]Total=168.4

Maximum s/h(1/2): C0_180=1.40 C90_270=1.36

Maximum s/h(1/4): C0_180=1.53 C90_270=1.49

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 74.587%

Hawko Lighting Group Australia Pty Ltd CHROMAFLEX-4000K (GREEN)

Zonal flux distribution table

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$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	94.289	.000	.000	.000%	.000%
5.0	94.273	2.254	2.254	.683%	.683%
10.0	94.003	6.735	8.989	2.041%	2.724%
15.0	93.315	11.112	20.101	3.367%	6.092%
20.0	92.036	15.275	35.377	4.629%	10.721%
25.0	90.125	19.105	54.482	5.790%	16.511%
30.0	87.484	22.477	76.958	6.812%	23.322%
35.0	84.657	25.349	102.307	7.682%	31.004%
40.0	80.848	27.613	129.920	8.368%	39.373%
45.0	76.405	29.117	159.037	8.824%	48.197%
50.0	70.937	29.773	188.810	9.023%	57.219%
55.0	64.230	29.390	218.199	8.907%	66.126%
60.0	56.561	27.920	246.120	8.461%	74.587%
65.0	47.587	25.318	271.438	7.673%	82.260%
70.0	37.627	21.577	293.015	6.539%	88.799%
75.0	26.735	16.823	309.838	5.098%	93.897%
80.0	16.413	11.545	321.384	3.499%	97.396%
85.0	7.574	6.518	327.902	1.975%	99.372%
90.0	.000	2.074	329.976	.629%	100.000%
95.0	.000	.000	329.976	.000%	100.000%
100.0	.000	.000	329.976	.000%	100.000%
105.0	.000	.000	329.976	.000%	100.000%
110.0	.000	.000	329.976	.000%	100.000%
115.0	.000	.000	329.976	.000%	100.000%
120.0	.000	.000	329.976	.000%	100.000%
125.0	.000	.000	329.976	.000%	100.000%
130.0	.000	.000	329.976	.000%	100.000%
135.0	.000	.000	329.976	.000%	100.000%
140.0	.000	.000	329.976	.000%	100.000%
145.0	.000	.000	329.976	.000%	100.000%
150.0	.000	.000	329.976	.000%	100.000%
155.0	.000	.000	329.976	.000%	100.000%
160.0	.000	.000	329.976	.000%	100.000%
165.0	.000	.000	329.976	.000%	100.000%
170.0	.000	.000	329.976	.000%	100.000%
175.0	.000	.000	329.976	.000%	100.000%
180.0	.000	.000	329.976	.000%	100.000%

Equipment: GMS2200
Temperature($^{\circ}\text{C}$): 25.2

Date: 2017-6-8
Humidity(%): 63.0%

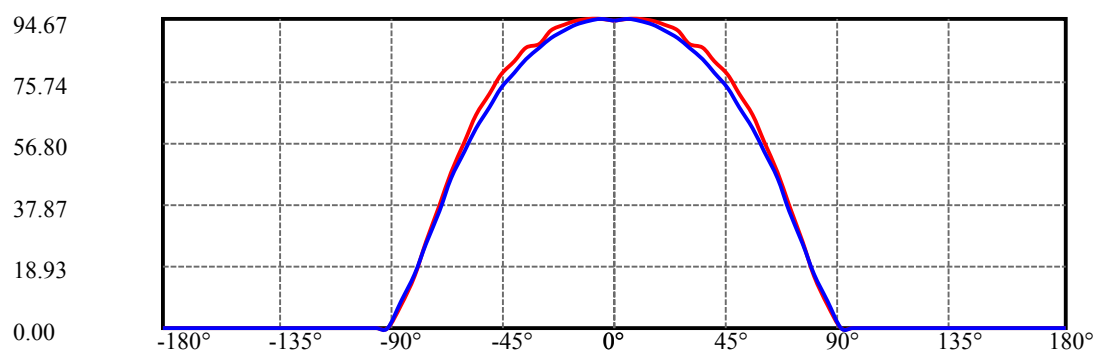
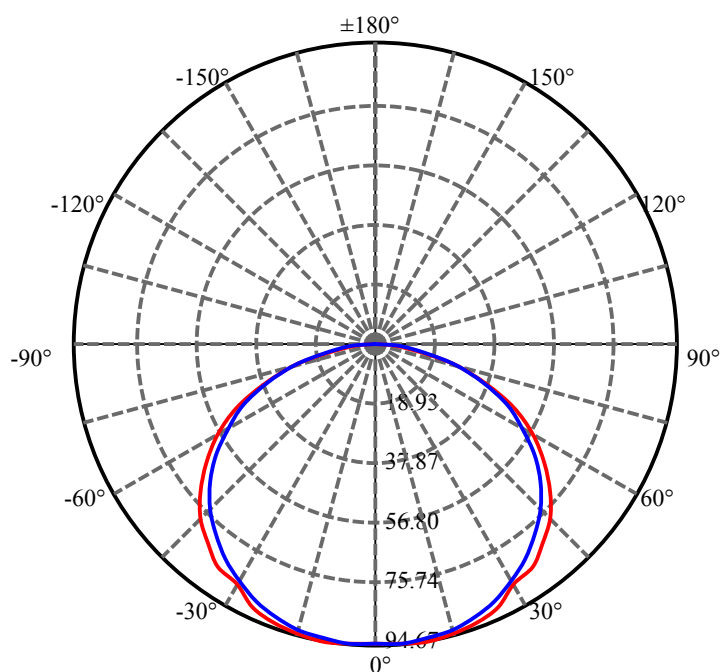
Operator: Jack
Distance(m): 12.00

ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixt
0-30	76.96	23.32%
0-40	129.92	39.37%
0-60	246.12	74.59%
0-90	329.98	100.00%
0-120	329.98	100.00%
0-180	329.98	100.00%
60-90	111.78	33.87%
90-120	2.07	0.63%
90-130	2.07	0.63%
90-150	2.07	0.63%
90-180	2.07	0.63%
0-63.53	263.98	80.00%

ZONAL LUMEN SUMMARY

0-10	8.99
10-20	26.39
20-30	41.58
30-40	52.96
40-50	58.89
50-60	57.31
60-70	46.90
70-80	28.37
80-90	8.59
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



C0/C180: —

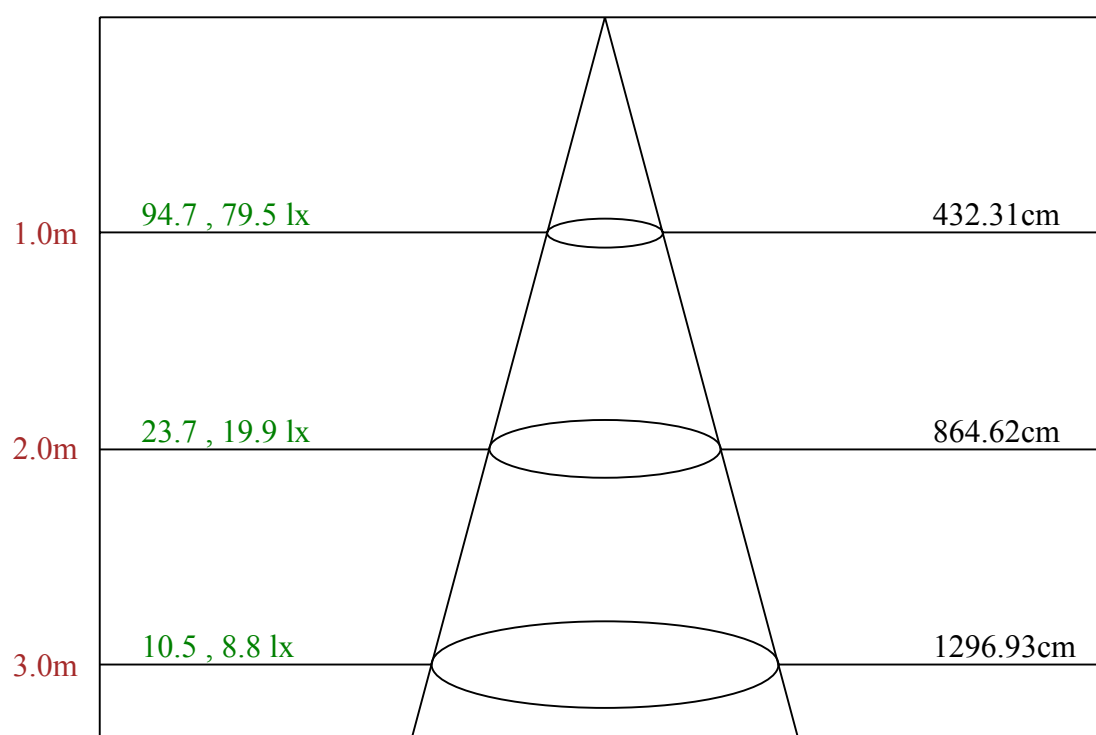
C90/C270: —

Field angle(10%Imax):C0/180Left:83.5 Right:83.5

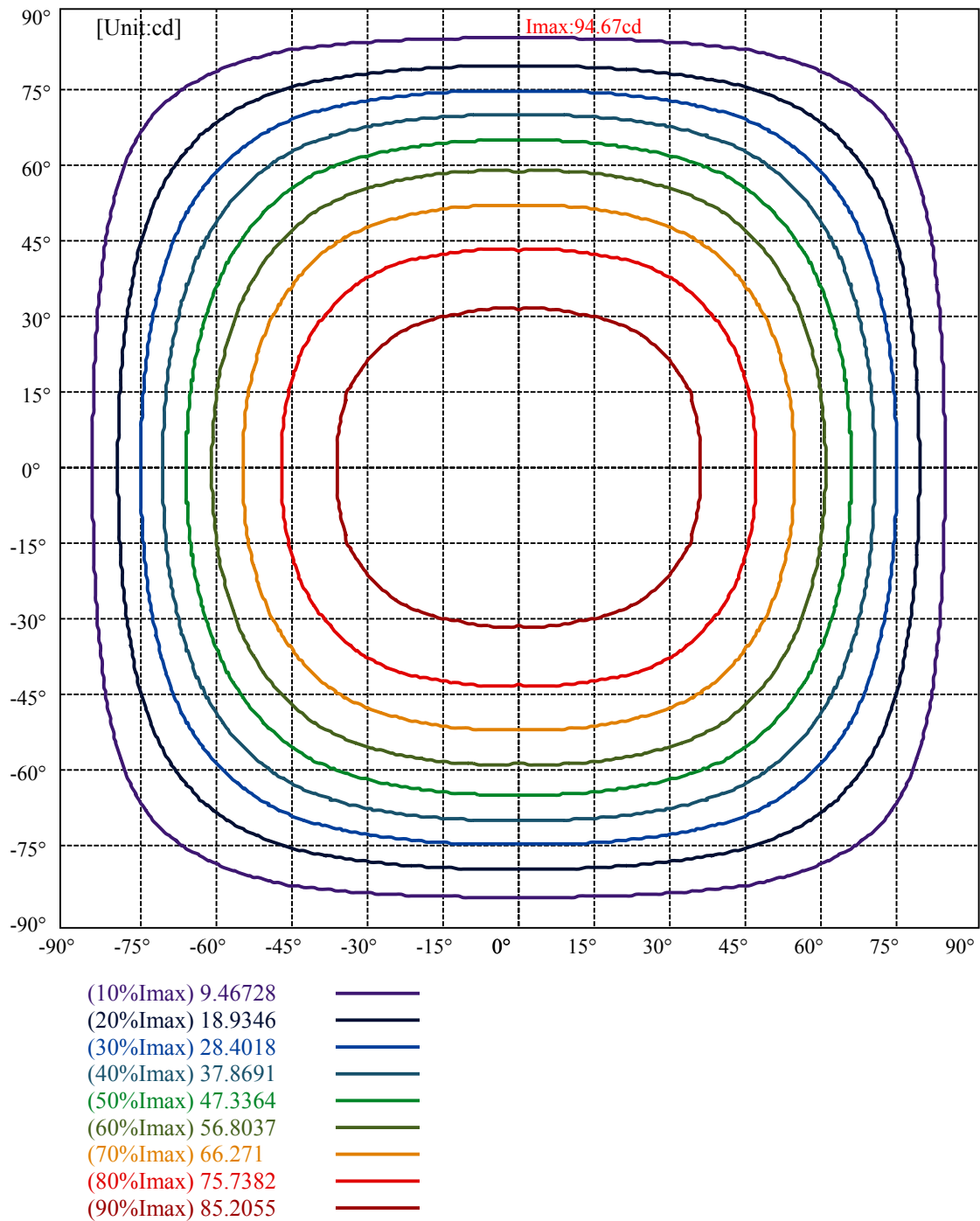
:C90/270Left:84.2 Right:84.2

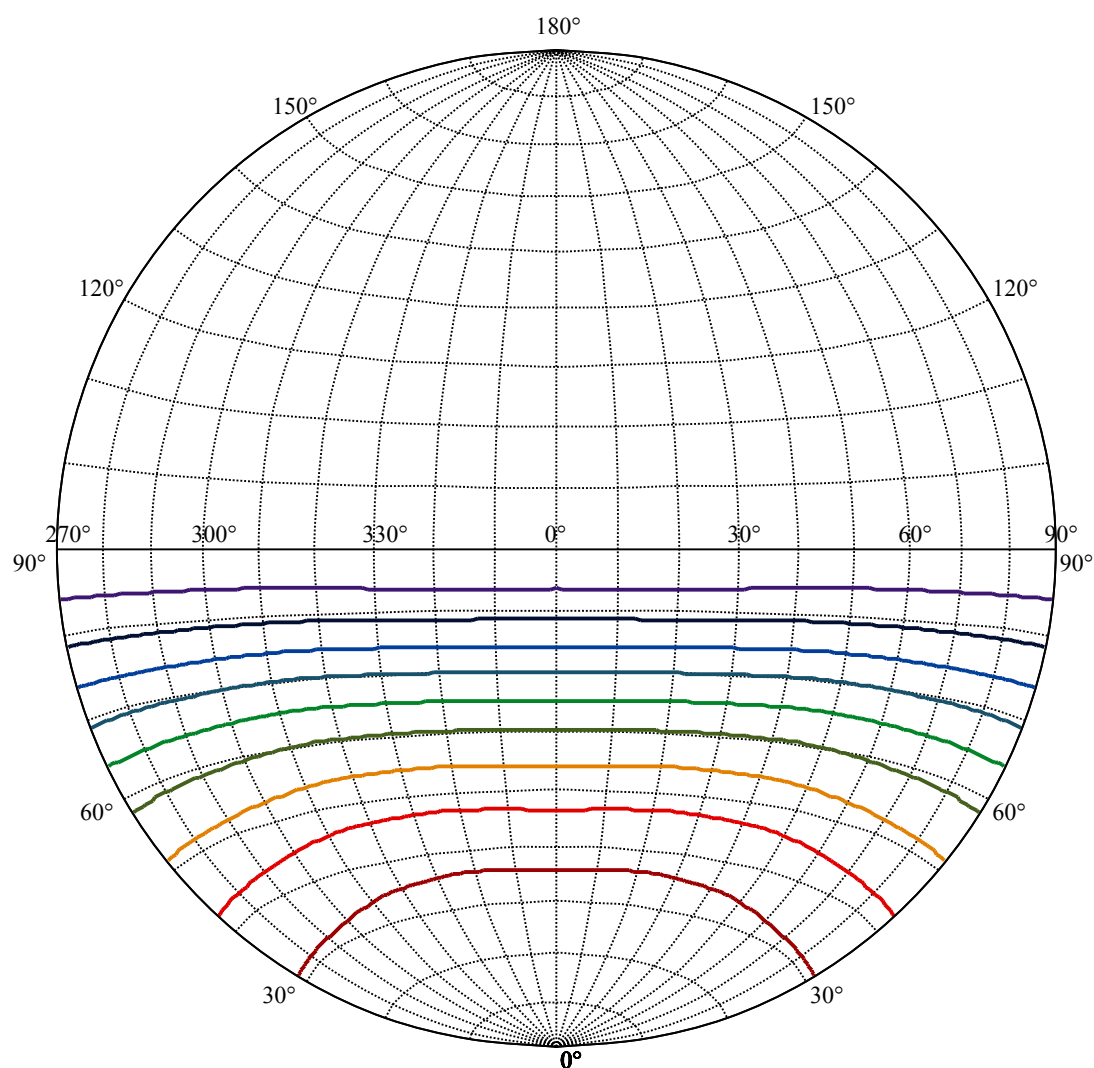
Beam Angle(50%Imax):C0/180Left:65.2 Right:65.2

:C90/270Left:64.1 Right:64.1



Max , Ave Beam angle of C0plane130.35





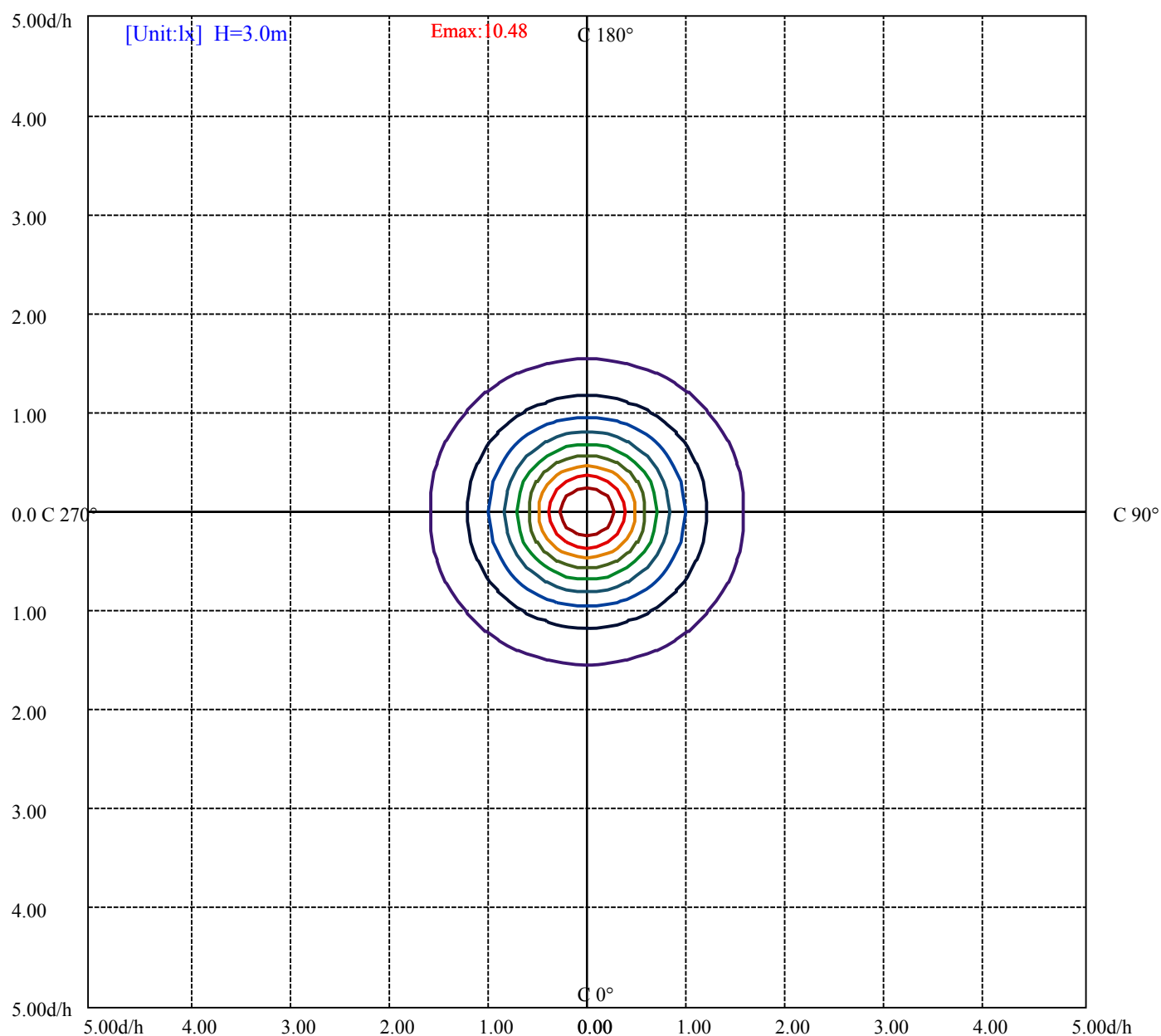
House

[Unit:cd]

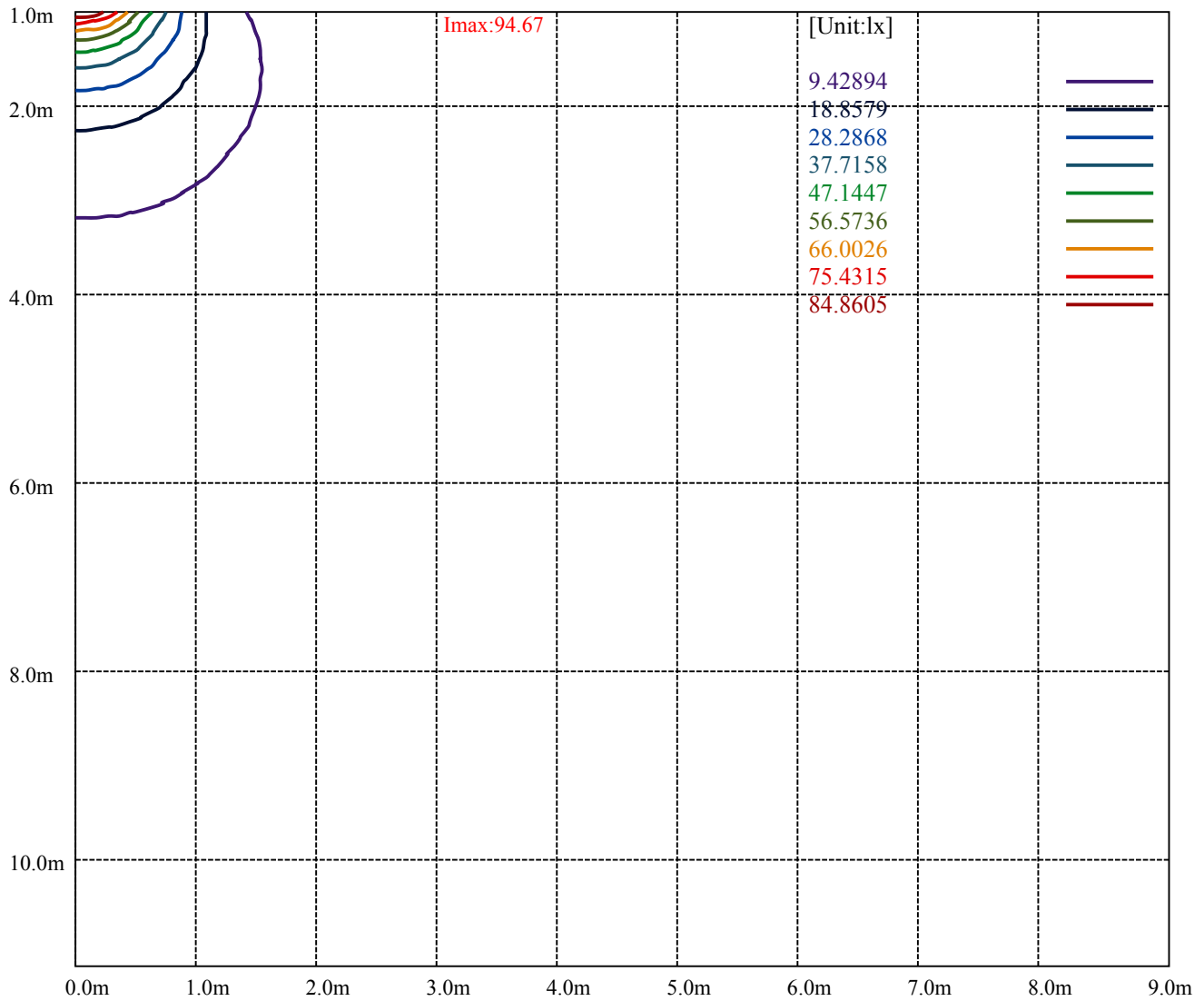
Road

Imax:94.67
 (10%Imax) 9.46728
 (20%Imax) 18.9346
 (30%Imax) 28.4018
 (40%Imax) 37.8691
 (50%Imax) 47.3364
 (60%Imax) 56.8037
 (70%Imax) 66.271
 (80%Imax) 75.7382
 (90%Imax) 85.2055





(10%Emax)	1.04766	—
(20%Emax)	2.095322	—
(30%Emax)	3.142978	—
(40%Emax)	4.190645	—
(50%Emax)	5.2383	—
(60%Emax)	6.285955	—
(70%Emax)	7.333622	—
(80%Emax)	8.381278	—
(90%Emax)	9.428933	—



Hawko Lighting Group Australia Pty Ltd CHROMAFLEX-4000K (GREEN)

Luminance Limiting Curve(no luminous side)

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Luminance Table

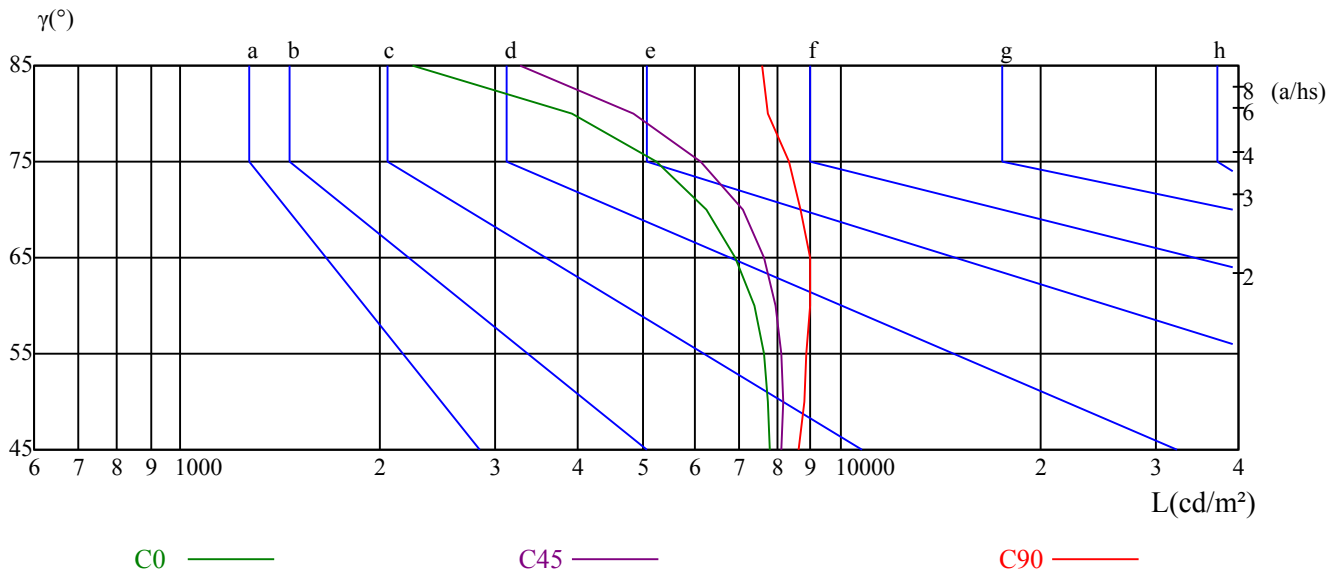
γ	45	50	55	60	65	70	75	80	85
C0	7813	7765	7626	7373	6921	6243	5241	3903	2244
C45	8141	8166	8111	7961	7640	7121	6126	4846	3260
C90	8631	8781	8863	8957	8980	8708	8330	7745	7585

L横(65)	L纵(65)	L45(65)	L横(75)	L纵(75)	L45(75)	L横(85)	L纵(85)	L45(85)
9394	9018	9594	8501	8392	8853	6519	7759	7703

Glare Table

Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

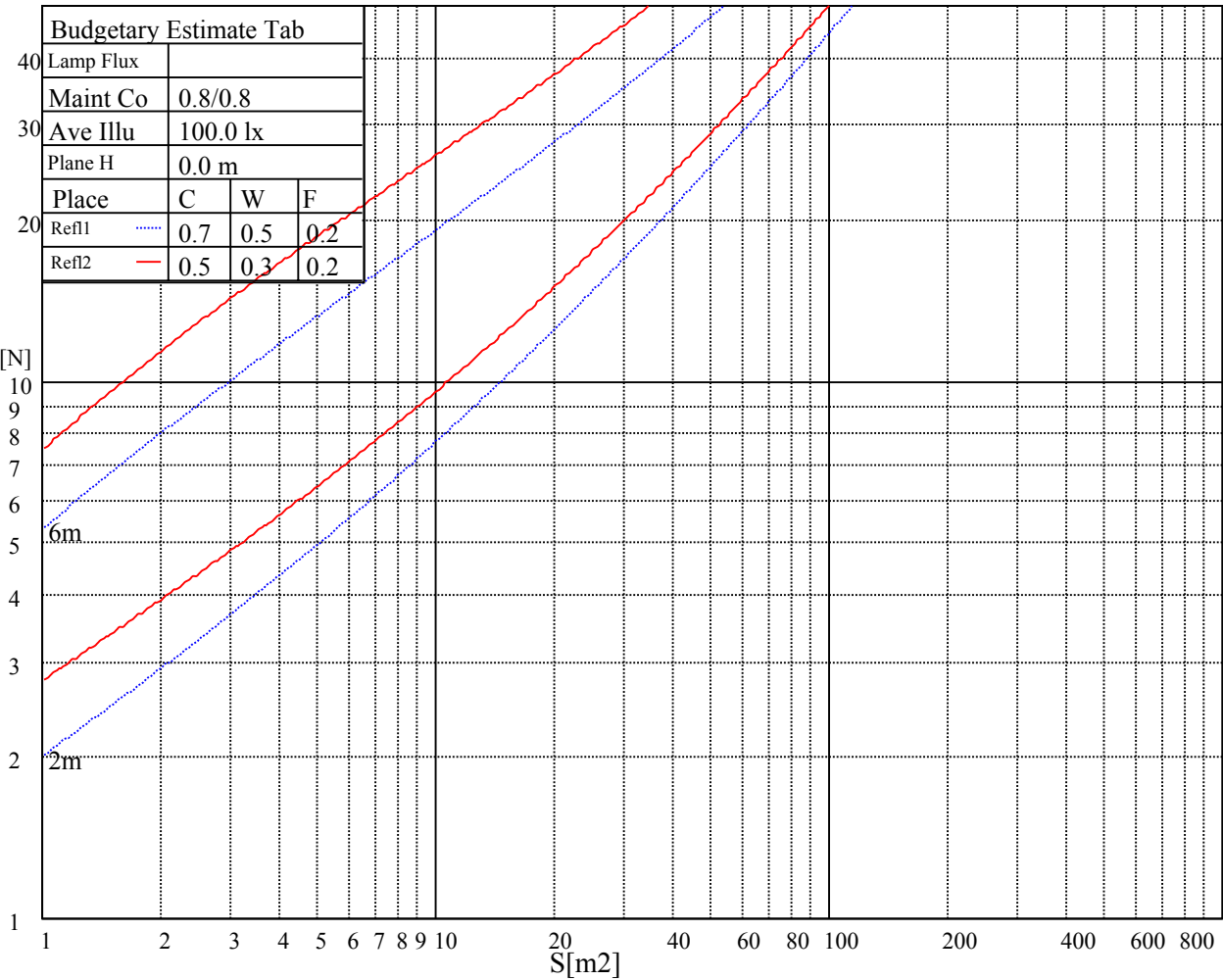
Luminance Limiting Curve



Equipment: GMS2200
Temperature($^{\circ}$ C): 25.2

Date: 2017-6-8
Humidity(%): 63.0%

Operator: Jack
Distance(m): 12.00



RHOCC	80			70			50			30			10			0
RHOW	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR	COEFFICIENTS OF UTILIZATION RHOFC=20 CU															
0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.03	0.98	0.94	1.00	0.96	0.92	0.96	0.93	0.89	0.92	0.89	0.87	0.88	0.86	0.84	0.82
2	0.88	0.81	0.75	0.87	0.80	0.74	0.83	0.77	0.72	0.80	0.75	0.71	0.77	0.73	0.69	0.67
3	0.77	0.68	0.61	0.75	0.67	0.61	0.72	0.65	0.60	0.70	0.64	0.59	0.67	0.62	0.58	0.55
4	0.68	0.58	0.51	0.66	0.58	0.51	0.64	0.56	0.50	0.61	0.55	0.49	0.59	0.53	0.49	0.46
5	0.60	0.51	0.44	0.59	0.50	0.43	0.57	0.49	0.43	0.55	0.48	0.42	0.53	0.47	0.42	0.40
6	0.54	0.44	0.38	0.53	0.44	0.38	0.51	0.43	0.37	0.49	0.42	0.37	0.48	0.41	0.36	0.34
7	0.49	0.39	0.33	0.48	0.39	0.33	0.46	0.38	0.33	0.45	0.38	0.32	0.43	0.37	0.32	0.30
8	0.44	0.35	0.29	0.43	0.35	0.29	0.42	0.34	0.29	0.41	0.34	0.29	0.40	0.33	0.29	0.27
9	0.40	0.32	0.26	0.40	0.32	0.26	0.39	0.31	0.26	0.37	0.31	0.26	0.36	0.30	0.26	0.24
10	0.37	0.29	0.24	0.37	0.29	0.23	0.36	0.28	0.23	0.35	0.28	0.23	0.34	0.28	0.23	0.21

Hawko Lighting Group Australia Pty Ltd CHROMAFLEX-4000K (GREEN)

Intensity data(cd)									Page: 13 Total:14
C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	94.29	94.57	94.67	94.30	93.05	91.08	87.25	85.72	81.95
22.5	94.29	94.40	94.53	93.92	92.89	91.26	88.90	86.11	82.59
45.0	94.29	93.86	93.50	92.97	91.89	90.09	87.88	85.11	81.47
67.5	94.29	94.31	93.66	92.74	91.20	89.14	86.55	83.33	79.25
90.0	94.29	94.48	93.99	92.96	91.28	88.94	85.97	82.44	78.19
112.5	94.29	94.31	93.66	92.74	91.20	89.14	86.55	83.33	79.25
135.0	94.29	93.86	93.50	92.97	91.89	90.09	87.88	85.11	81.47
157.5	94.29	94.40	94.53	93.92	92.89	91.26	88.90	86.11	82.59
180.0	94.29	94.57	94.67	94.30	93.05	91.08	87.25	85.72	81.95
202.5	94.29	94.40	94.53	93.92	92.89	91.26	88.90	86.11	82.59
225.0	94.29	93.86	93.50	92.97	91.89	90.09	87.88	85.11	81.47
247.5	94.29	94.31	93.66	92.74	91.20	89.14	86.55	83.33	79.25
270.0	94.29	94.48	93.99	92.96	91.28	88.94	85.97	82.44	78.19
292.5	94.29	94.31	93.66	92.74	91.20	89.14	86.55	83.33	79.25
315.0	94.29	93.86	93.50	92.97	91.89	90.09	87.88	85.11	81.47
337.5	94.29	94.40	94.53	93.92	92.89	91.26	88.90	86.11	82.59
360.0	94.29	94.57	94.67	94.30	93.05	91.08	87.25	85.72	81.95
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	77.35	71.79	64.98	57.01	47.64	37.35	26.40	15.82	6.82
22.5	78.17	72.59	65.76	57.82	48.19	37.97	26.63	16.07	6.63
45.0	77.32	71.94	65.34	57.64	48.65	38.80	27.50	16.93	8.06
67.5	74.76	69.37	62.74	55.32	46.81	37.10	26.58	16.58	8.15
90.0	73.38	67.90	61.18	53.93	45.73	35.94	26.06	16.32	8.11
112.5	74.76	69.37	62.74	55.32	46.81	37.10	26.58	16.58	8.15
135.0	77.32	71.94	65.34	57.64	48.65	38.80	27.50	16.93	8.06
157.5	78.17	72.59	65.76	57.82	48.19	37.97	26.63	16.07	6.63
180.0	77.35	71.79	64.98	57.01	47.64	37.35	26.40	15.82	6.82
202.5	78.17	72.59	65.76	57.82	48.19	37.97	26.63	16.07	6.63
225.0	77.32	71.94	65.34	57.64	48.65	38.80	27.50	16.93	8.06
247.5	74.76	69.37	62.74	55.32	46.81	37.10	26.58	16.58	8.15
270.0	73.38	67.90	61.18	53.93	45.73	35.94	26.06	16.32	8.11
292.5	74.76	69.37	62.74	55.32	46.81	37.10	26.58	16.58	8.15
315.0	77.32	71.94	65.34	57.64	48.65	38.80	27.50	16.93	8.06
337.5	78.17	72.59	65.76	57.82	48.19	37.97	26.63	16.07	6.63
360.0	77.35	71.79	64.98	57.01	47.64	37.35	26.40	15.82	6.82
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
67.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
112.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
157.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
202.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
225.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
247.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
270.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
292.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
315.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
337.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
360.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Hawko Lighting Group Australia Pty Ltd CHROMAFLEX-4000K (GREEN)

Intensity data(cd)

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C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
67.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
112.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
157.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
202.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
225.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
247.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
270.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
292.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
315.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
337.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
360.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

C/γ(°)	180.0
0.0	0.00
22.5	0.00
45.0	0.00
67.5	0.00
90.0	0.00
112.5	0.00
135.0	0.00
157.5	0.00
180.0	0.00
202.5	0.00
225.0	0.00
247.5	0.00
270.0	0.00
292.5	0.00
315.0	0.00
337.5	0.00
360.0	0.00