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Hawko Lighting Group Australia Pty Ltd

LumCAT: CHROMAFLEX-4000K (WHITE)

Luminaire: LED Strip light

Report No: BSR1706080501-9

Test No: S01

LampCAT:

Lamp flux(lm)

Number of Lamps: 60

Length(mm): 1000

Phm Type: C

Voltage(V): 24.0000

Current(A): 0.2020

Power (W): 4.8500

PF: 0.9989

Ballast type:

Width(mm): 12

Height(mm): 2

Photometric Results

Lumens(lm): 370.67

Lumens(lm)/Power(W): 76.43

Central intensity(cd): 123.025

Maximum intensity(cd): 123.329

Angle of maximum intensity: $C=0.0$ $\gamma=5.0$

Beam Angle(50%Imax): [C0/180]Total=116.9

[C90/270]Total=117.2

Field angle(10%Imax): [C0/180]Total=162.9

[C90/270]Total=164.8

Maximum s/h(1/2): C0_180=1.29 C90_270=1.29

Maximum s/h(1/4): C0_180=1.41 C90_270=1.41

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 77.641%

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

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	123.025	.000	.000	.000%	.000%
5.0	122.736	2.938	2.938	.793%	.793%
10.0	121.385	8.733	11.671	2.356%	3.149%
15.0	119.191	14.271	25.942	3.850%	6.999%
20.0	116.032	19.386	45.327	5.230%	12.229%
25.0	111.850	23.901	69.228	6.448%	18.677%
30.0	106.435	27.624	96.852	7.453%	26.129%
35.0	100.841	30.523	127.375	8.235%	34.364%
40.0	94.146	32.532	159.907	8.777%	43.140%
45.0	86.462	33.441	193.348	9.022%	52.162%
50.0	77.842	33.200	226.548	8.957%	61.119%
55.0	68.621	31.846	258.394	8.592%	69.711%
60.0	58.555	29.396	287.790	7.931%	77.641%
65.0	47.740	25.840	313.630	6.971%	84.613%
70.0	36.846	21.418	335.048	5.778%	90.391%
75.0	25.701	16.349	351.397	4.411%	94.801%
80.0	15.447	11.010	362.407	2.970%	97.772%
85.0	7.446	6.220	368.627	1.678%	99.450%
90.0	.000	2.039	370.666	.550%	100.000%
95.0	.000	.000	370.666	.000%	100.000%
100.0	.000	.000	370.666	.000%	100.000%
105.0	.000	.000	370.666	.000%	100.000%
110.0	.000	.000	370.666	.000%	100.000%
115.0	.000	.000	370.666	.000%	100.000%
120.0	.000	.000	370.666	.000%	100.000%
125.0	.000	.000	370.666	.000%	100.000%
130.0	.000	.000	370.666	.000%	100.000%
135.0	.000	.000	370.666	.000%	100.000%
140.0	.000	.000	370.666	.000%	100.000%
145.0	.000	.000	370.666	.000%	100.000%
150.0	.000	.000	370.666	.000%	100.000%
155.0	.000	.000	370.666	.000%	100.000%
160.0	.000	.000	370.666	.000%	100.000%
165.0	.000	.000	370.666	.000%	100.000%
170.0	.000	.000	370.666	.000%	100.000%
175.0	.000	.000	370.666	.000%	100.000%
180.0	.000	.000	370.666	.000%	100.000%

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

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

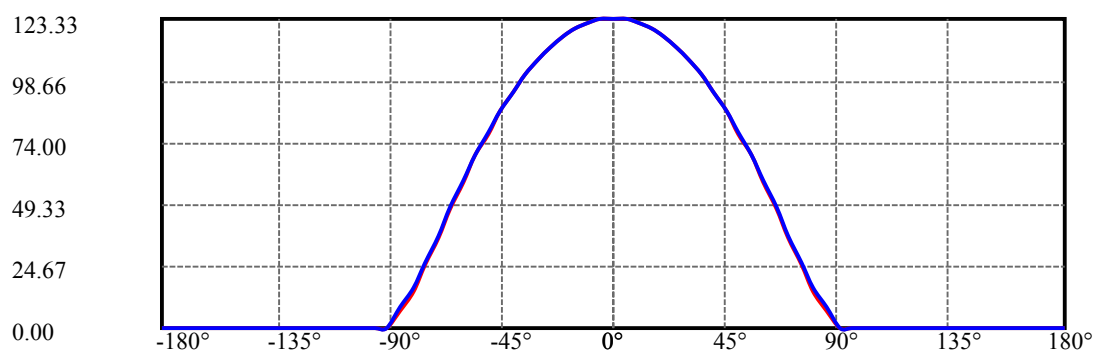
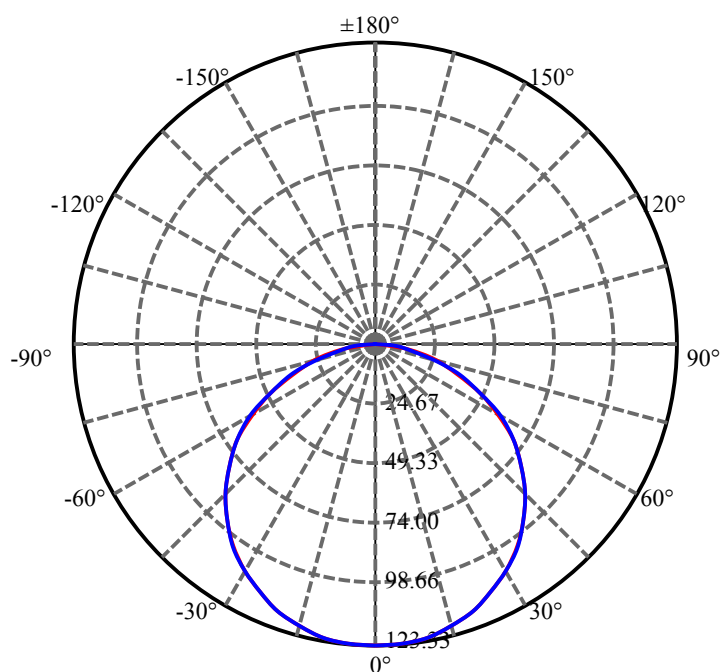
Operator: Jack
Distance(m): 12.00

ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixt
0-30	96.85	26.13%
0-40	159.91	43.14%
0-60	287.79	77.64%
0-90	370.67	100.00%
0-120	370.67	100.00%
0-180	370.67	100.00%
60-90	112.27	30.29%
90-120	2.04	0.55%
90-130	2.04	0.55%
90-150	2.04	0.55%
90-180	2.04	0.55%
0-61.69	296.53	80.00%

ZONAL LUMEN SUMMARY

0-10	11.67
10-20	33.66
20-30	51.52
30-40	63.05
40-50	66.64
50-60	61.24
60-70	47.26
70-80	27.36
80-90	8.26
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: ———

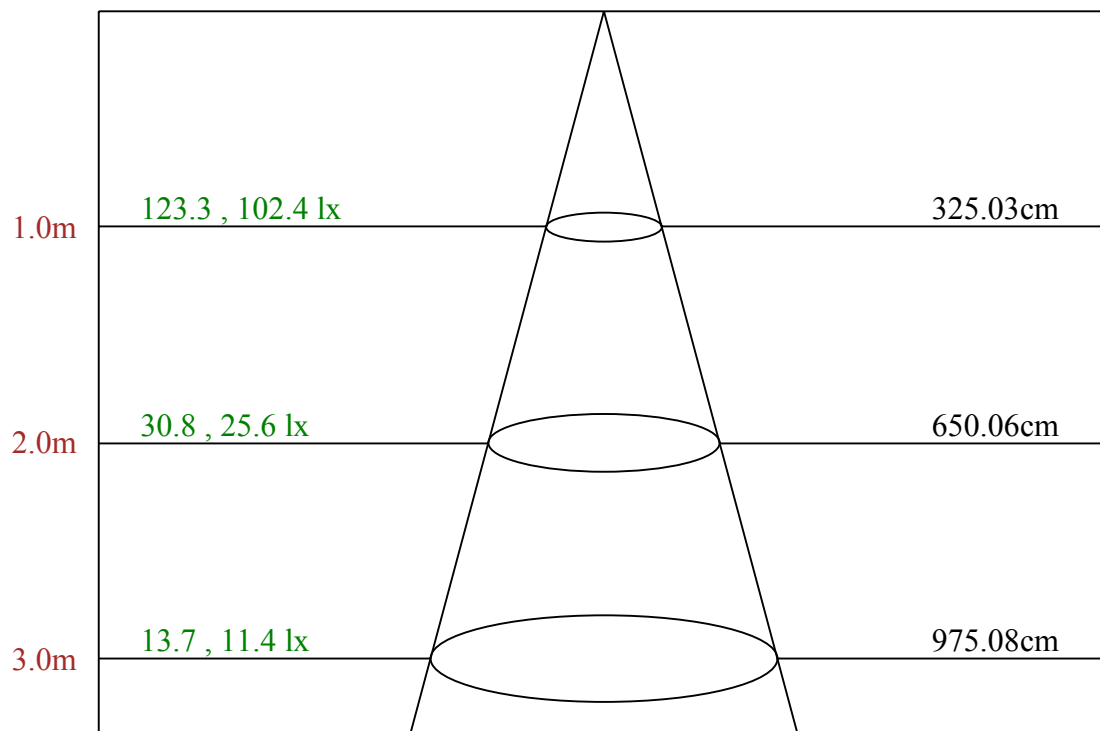
C90/C270: ———

Field angle(10%Imax):C0/180Left:81.4 Right:81.4

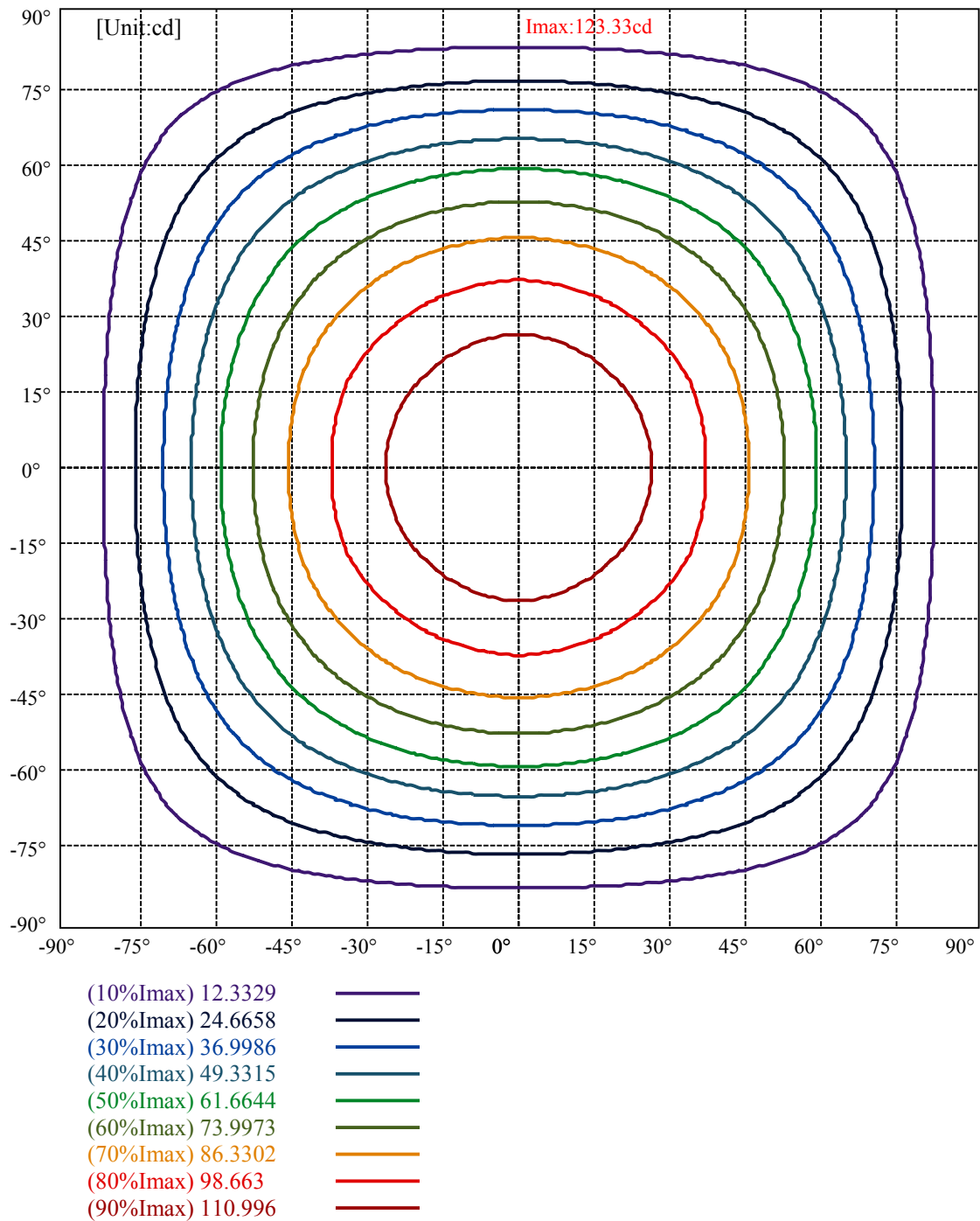
:C90/270Left:82.4 Right:82.4

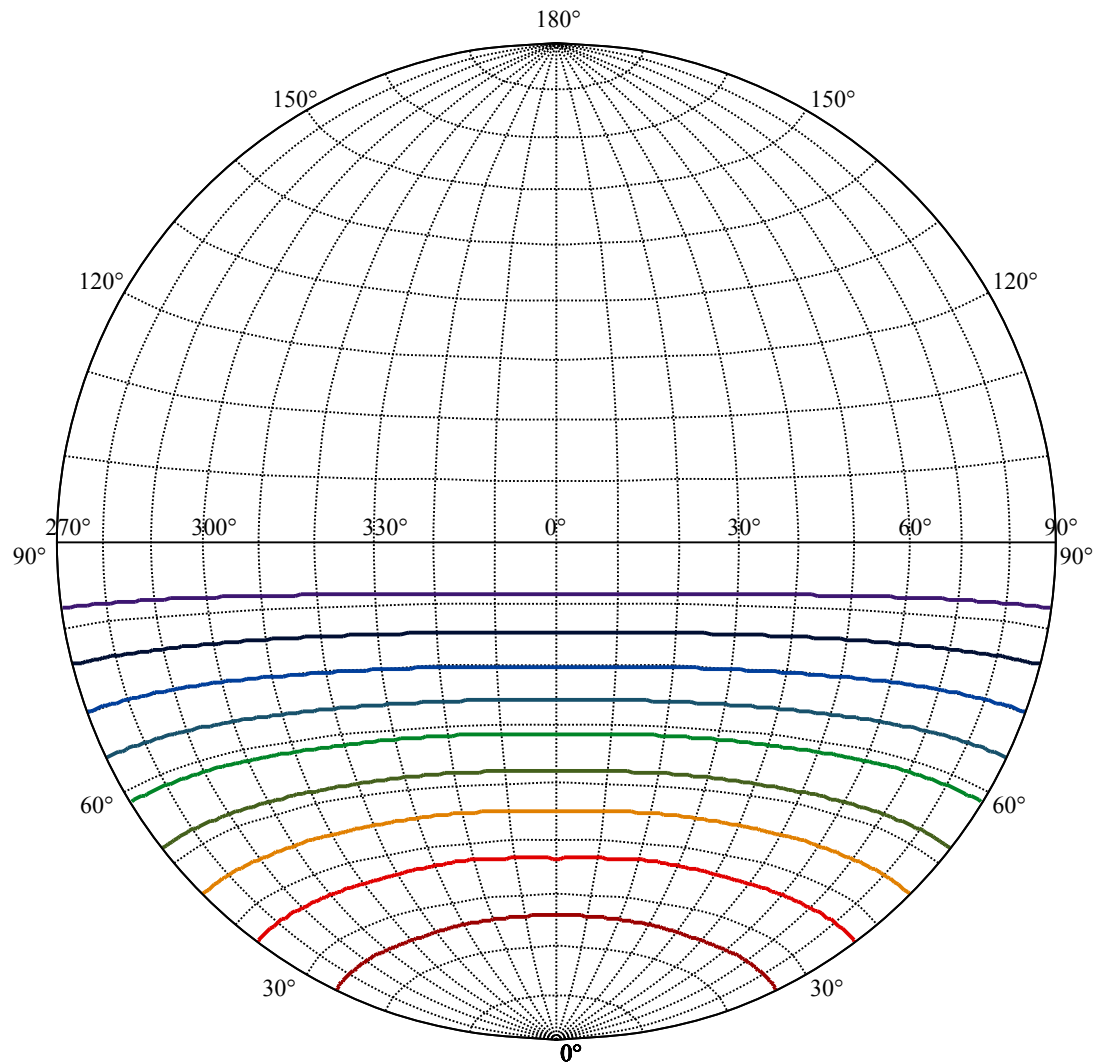
Beam Angle(50%Imax):C0/180Left:58.5 Right:58.5

:C90/270Left:58.6 Right:58.6



Max , Ave Beam angle of C0plane116.79





House

[Unit:cd]

Road

Imax:123.33

(10%Imax) 12.3329

(20%Imax) 24.6658

(30%Imax) 36.9986

(40%Imax) 49.3315

(50%Imax) 61.6644

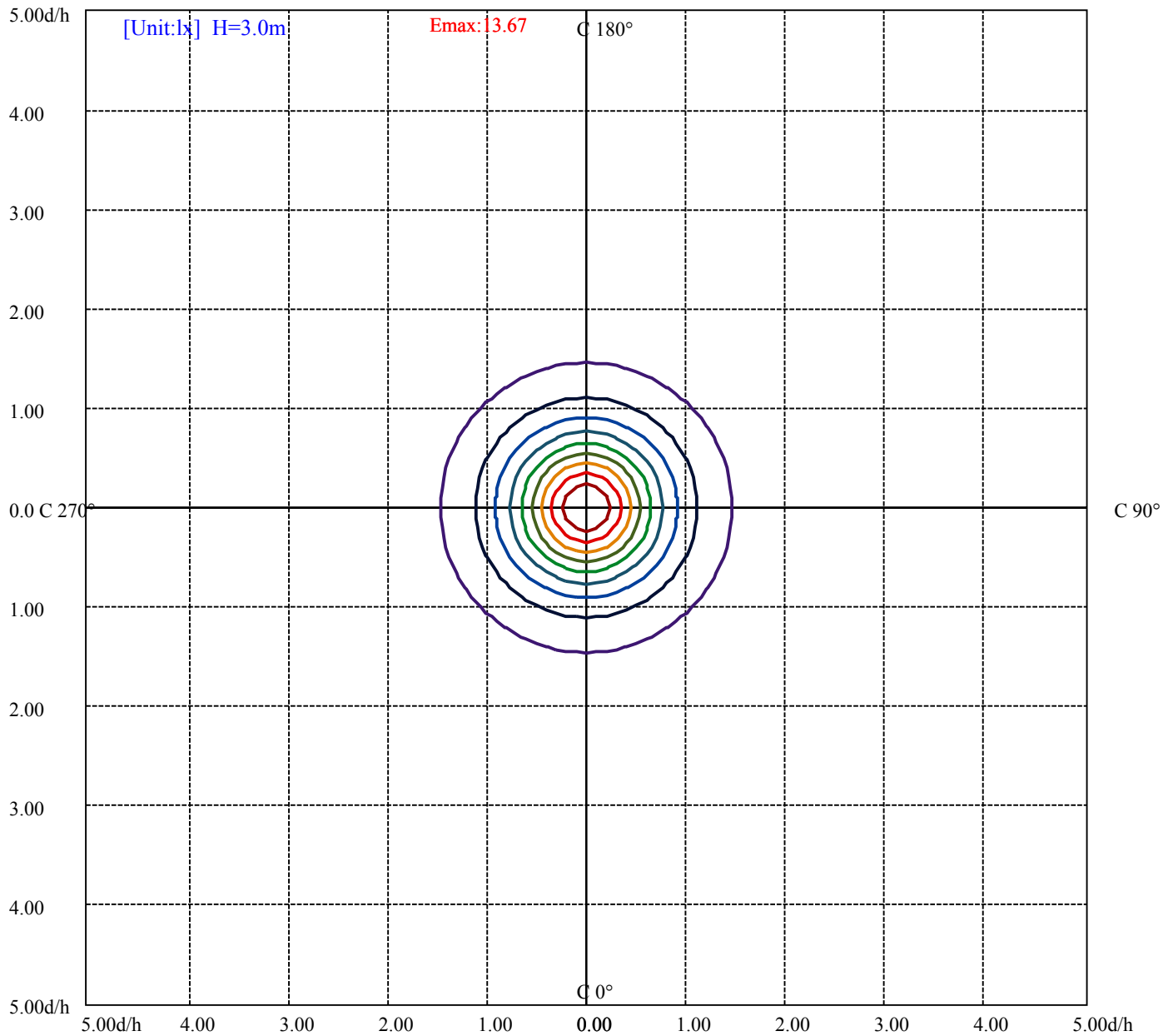
(60%Imax) 73.9973

(70%Imax) 86.3302

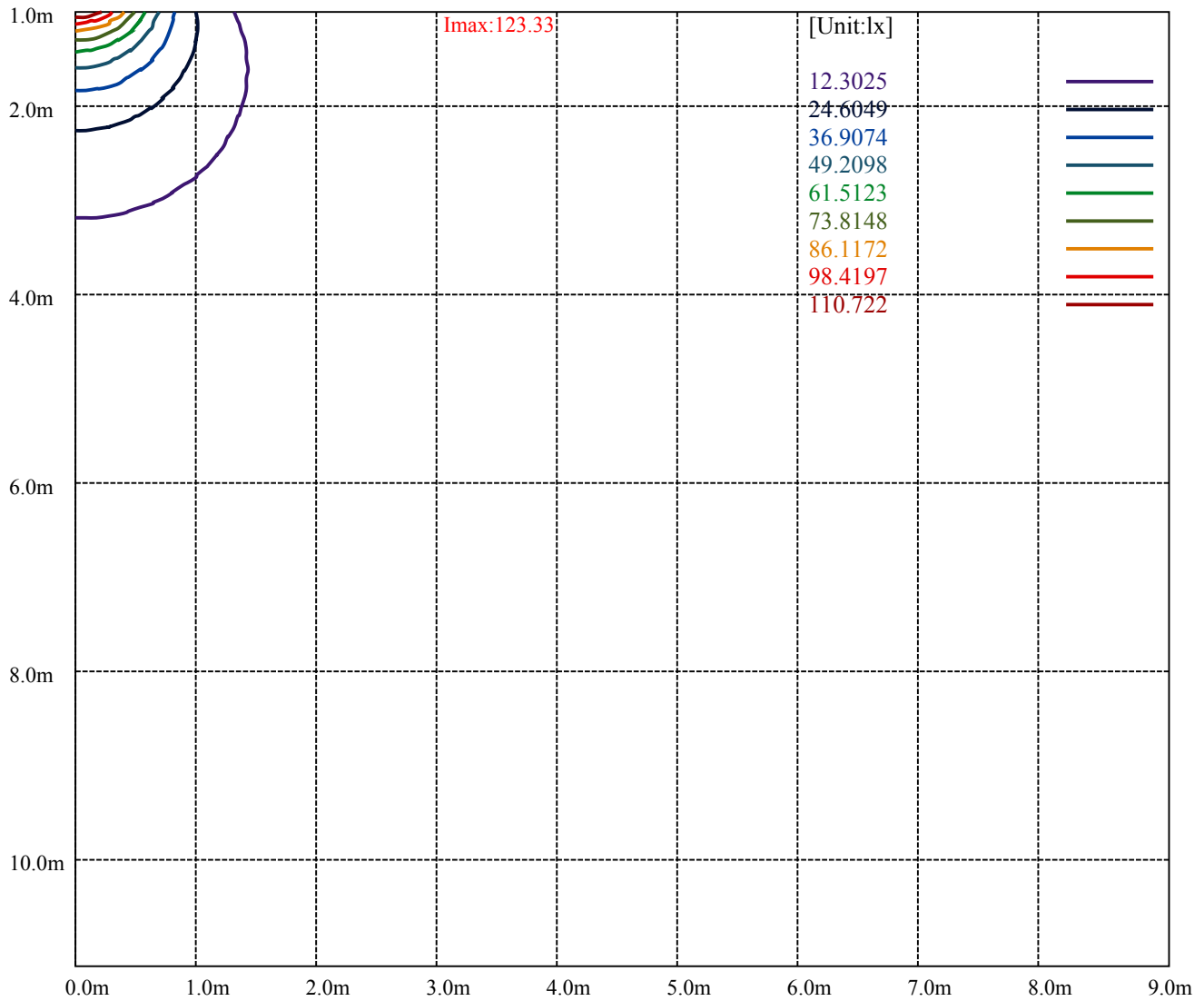
(80%Imax) 98.663

(90%Imax) 110.996





(10%Emax)	1.366944	—
(20%Emax)	2.733878	—
(30%Emax)	4.100822	—
(40%Emax)	5.467756	—
(50%Emax)	6.8347	—
(60%Emax)	8.201644	—
(70%Emax)	9.568578	—
(80%Emax)	10.93552	—
(90%Emax)	12.30244	—



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

Luminance Limiting Curve(no luminous side)

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Luminance Table

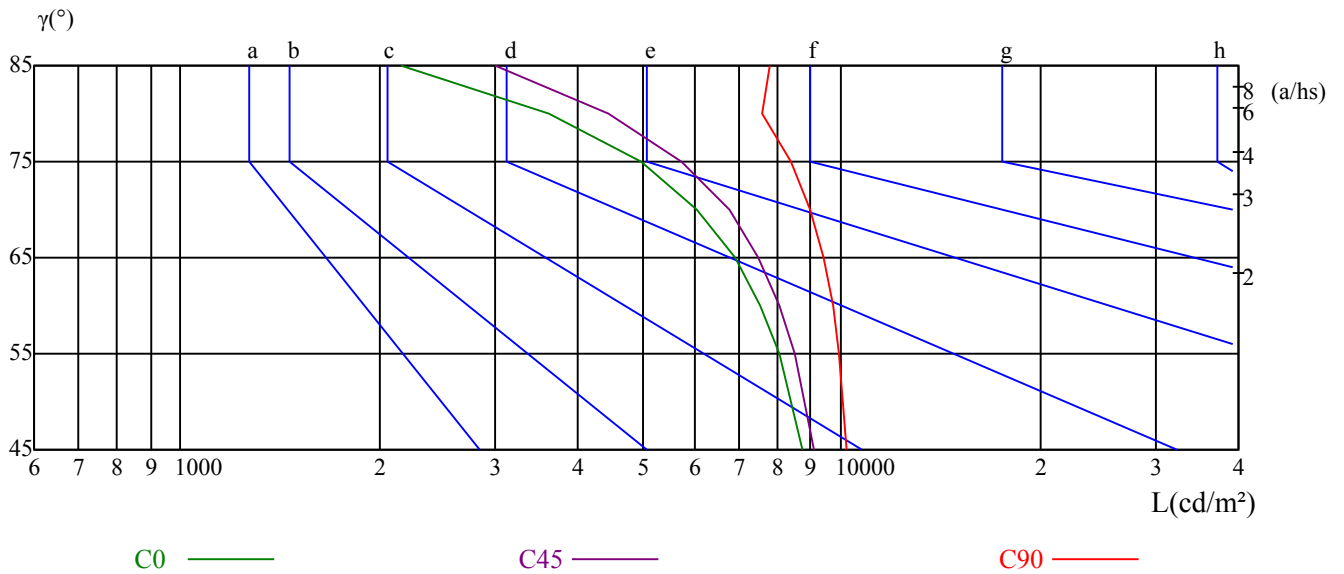
γ	45	50	55	60	65	70	75	80	85
C0	8747	8399	8070	7541	6908	6045	4969	3613	2161
C45	9089	8819	8498	8070	7480	6757	5740	4446	3002
C90	10173	10095	9941	9753	9432	8996	8403	7598	7794

L横(65)	L纵(65)	L45(65)	L横(75)	L纵(75)	L45(75)	L横(85)	L纵(85)	L45(85)
9377	9472	9393	8060	8466	8295	6278	7972	7094

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

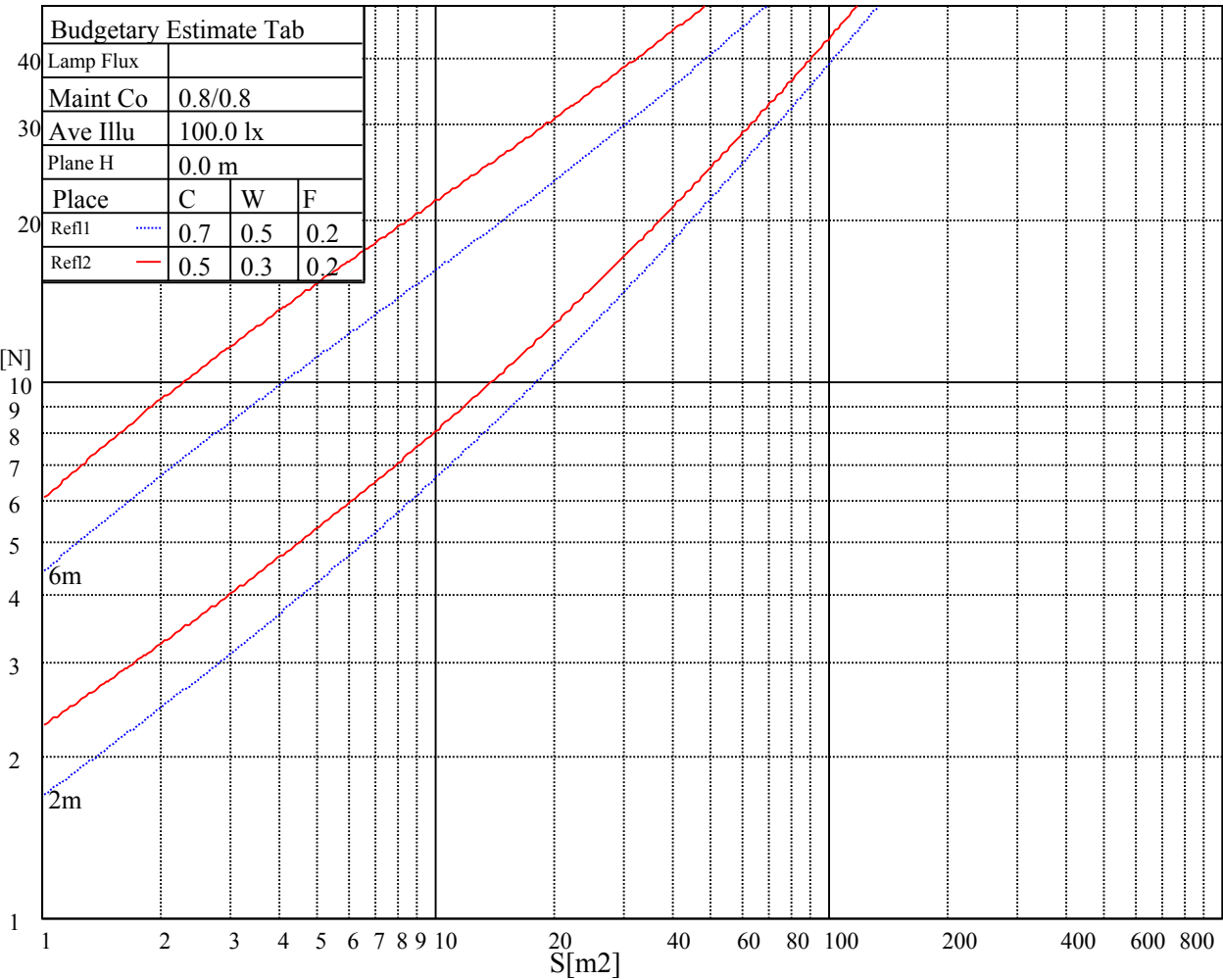
Luminance Limiting Curve



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

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

Operator: Jack
Distance(m): 12.00



RHOC	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 RHOF=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	0.99	0.95	1.01	0.97	0.94	0.97	0.94	0.91	0.93	0.90	0.88	0.89	0.87	0.85	0.83
2	0.90	0.83	0.77	0.88	0.82	0.76	0.84	0.79	0.74	0.81	0.77	0.73	0.78	0.74	0.71	0.69
3	0.79	0.70	0.64	0.77	0.69	0.63	0.74	0.67	0.62	0.71	0.66	0.61	0.69	0.64	0.60	0.58
4	0.70	0.61	0.54	0.68	0.60	0.53	0.66	0.58	0.53	0.63	0.57	0.52	0.61	0.56	0.51	0.49
5	0.62	0.53	0.46	0.61	0.52	0.46	0.59	0.51	0.45	0.57	0.50	0.45	0.55	0.49	0.44	0.42
6	0.56	0.47	0.40	0.55	0.46	0.40	0.53	0.45	0.40	0.51	0.44	0.39	0.50	0.44	0.39	0.37
7	0.50	0.42	0.35	0.50	0.41	0.35	0.48	0.40	0.35	0.47	0.40	0.35	0.45	0.39	0.34	0.32
8	0.46	0.37	0.31	0.45	0.37	0.31	0.44	0.36	0.31	0.43	0.36	0.31	0.41	0.35	0.31	0.29
9	0.42	0.34	0.28	0.42	0.34	0.28	0.40	0.33	0.28	0.39	0.33	0.28	0.38	0.32	0.28	0.26
10	0.39	0.31	0.26	0.38	0.31	0.25	0.37	0.30	0.25	0.36	0.30	0.25	0.35	0.29	0.25	0.23

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

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	123.02	123.33	121.92	119.69	116.40	112.18	107.08	100.83	94.26
22.5	123.02	122.59	121.65	119.57	116.35	112.23	105.34	101.42	94.87
45.0	123.02	122.35	120.72	118.46	115.59	111.34	106.54	100.43	93.80
67.5	123.02	122.84	121.27	119.09	115.79	111.68	106.79	100.49	93.71
90.0	123.02	123.01	121.87	119.60	116.40	112.13	107.06	101.20	94.15
112.5	123.02	122.84	121.27	119.09	115.79	111.68	106.79	100.49	93.71
135.0	123.02	122.35	120.72	118.46	115.59	111.34	106.54	100.43	93.80
157.5	123.02	122.59	121.65	119.57	116.35	112.23	105.34	101.42	94.87
180.0	123.02	123.33	121.92	119.69	116.40	112.18	107.08	100.83	94.26
202.5	123.02	122.59	121.65	119.57	116.35	112.23	105.34	101.42	94.87
225.0	123.02	122.35	120.72	118.46	115.59	111.34	106.54	100.43	93.80
247.5	123.02	122.84	121.27	119.09	115.79	111.68	106.79	100.49	93.71
270.0	123.02	123.01	121.87	119.60	116.40	112.13	107.06	101.20	94.15
292.5	123.02	122.84	121.27	119.09	115.79	111.68	106.79	100.49	93.71
315.0	123.02	122.35	120.72	118.46	115.59	111.34	106.54	100.43	93.80
337.5	123.02	122.59	121.65	119.57	116.35	112.23	105.34	101.42	94.87
360.0	123.02	123.33	121.92	119.69	116.40	112.18	107.08	100.83	94.26
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	86.59	77.65	68.77	58.31	47.56	36.17	25.03	14.64	6.57
22.5	86.97	78.22	68.94	58.69	47.63	36.63	25.51	14.94	6.97
45.0	86.32	77.69	68.45	58.42	47.64	36.82	25.76	15.53	7.42
67.5	86.02	77.60	68.40	58.59	47.90	37.28	25.87	15.99	7.94
90.0	86.49	78.06	68.62	58.72	48.04	37.12	26.29	16.01	8.34
112.5	86.02	77.60	68.40	58.59	47.90	37.28	25.87	15.99	7.94
135.0	86.32	77.69	68.45	58.42	47.64	36.82	25.76	15.53	7.42
157.5	86.97	78.22	68.94	58.69	47.63	36.63	25.51	14.94	6.97
180.0	86.59	77.65	68.77	58.31	47.56	36.17	25.03	14.64	6.57
202.5	86.97	78.22	68.94	58.69	47.63	36.63	25.51	14.94	6.97
225.0	86.32	77.69	68.45	58.42	47.64	36.82	25.76	15.53	7.42
247.5	86.02	77.60	68.40	58.59	47.90	37.28	25.87	15.99	7.94
270.0	86.49	78.06	68.62	58.72	48.04	37.12	26.29	16.01	8.34
292.5	86.02	77.60	68.40	58.59	47.90	37.28	25.87	15.99	7.94
315.0	86.32	77.69	68.45	58.42	47.64	36.82	25.76	15.53	7.42
337.5	86.97	78.22	68.94	58.69	47.63	36.63	25.51	14.94	6.97
360.0	86.59	77.65	68.77	58.31	47.56	36.17	25.03	14.64	6.57
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 (WHITE)

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