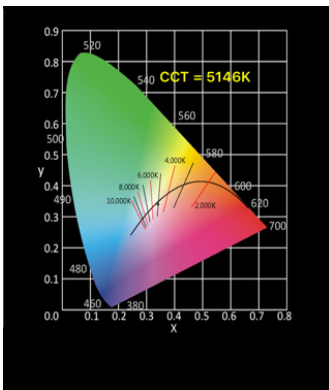


## Report of Photometry & Chromaticity for Morgan Hope Industries Ltd. ASTRID HighLite XL 40W LED Floodlight



### A. Product Description

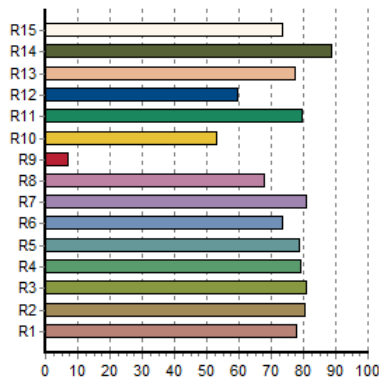
Product Name     ASTRID HighLite XL 40W LED Flood  
 Date                13-06-2016  
 Manufacturer       Morgan Hope Industries Ltd  
 Tester              lightlab photometrics     Reviewer     KB  
 Temperature       25degC                             Re. Humidity(%)     53  
 Spectrum Range : 380 ~ 780 nm.     Wavelength Step : 1 nm.



CIE1931 Chromaticity Diagram

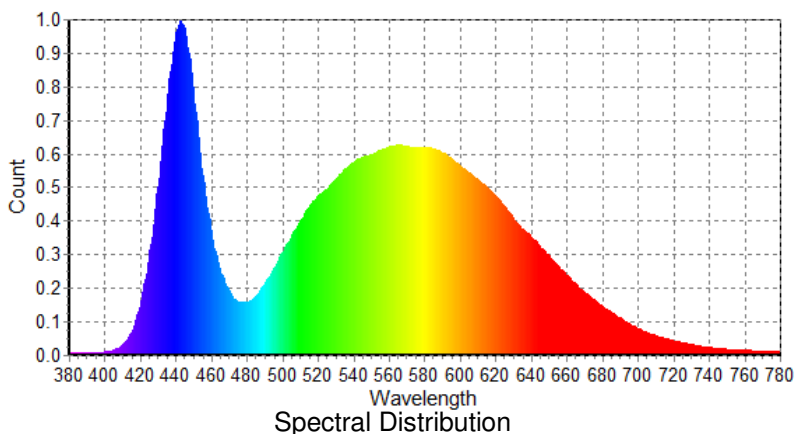
### C. Photometry and Chromaticity

CIE_x	0.3406	$\Delta v$	-0.0037
CIE_y	0.3407	Ld(nm)	577.9
CIE_u'	0.2126	Purity(%)	4.4
CIE_v'	0.4786	FWHM(nm)	27.2
CCT(K)	5146	SP ratio	1.85
Luminaire lumens	2840	PPFD(umol/sec m <sup>2</sup> )	
Lp(nm)	443.0		23.6
TLCI(Qa)	56.79	GAI	89.7

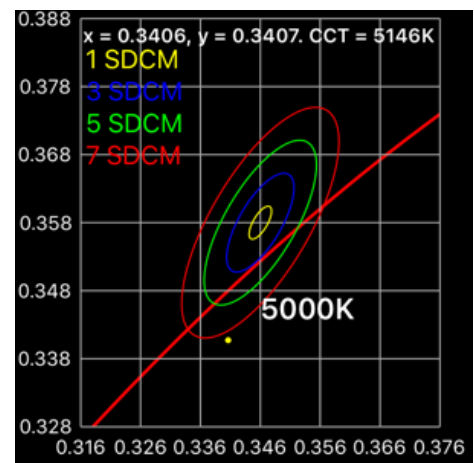


CRI(Ra)	78	Re(thru R1~R15)	71
Qa	76		
R1	78.4	R6	74.0
R2	80.7	R7	81.2
R3	81.2	R8	68.3
R4	79.4	R9	7.3
R5	79.3	R10	53.6
		R11	80.1
		R12	60.2
		R13	77.6
		R14	89.2
		R15	74.1

Histogram Diagram of CRI



Spectral Distribution



IEC SDCM

filename : Astrid-HighLite-40W-XL.LDT  
 meas. number : 2077  
 luminaire number : Astrid HighLite 40W-XL  
 date / operator : 13-10-2016



#### default lamp type(s)

no of lamps	lamp type	luminaire lumens	input wattage
1	LED MODULE	2840 lm	38.4 W

#### dimensions

luminaire		luminous area	
length	: 240 mm	length	: 180 mm
width	: 180 mm	width	: 130 mm
height	: 80 mm	height	: 0 mm

#### coordinate system

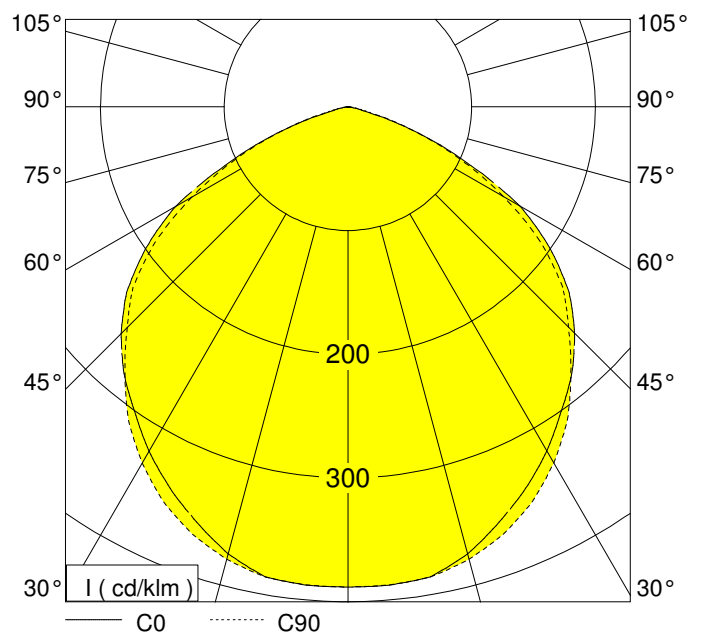
no of planes	: 7	samples / plane	: 37
first c-plane	: 0.0 °	first gamma-angle	: 0.0 °
step angle	: 15.0 °	step angle	: 5.0 °
last c-plane	: 90.0 °	last gamma-angle	: 180.0 °
symmetrics : symmetry to C0 / C90			

#### performance

light output ratio : 100.0 %  
 DFF : 100.0 %  
 UFF : 0.0 %

#### classification

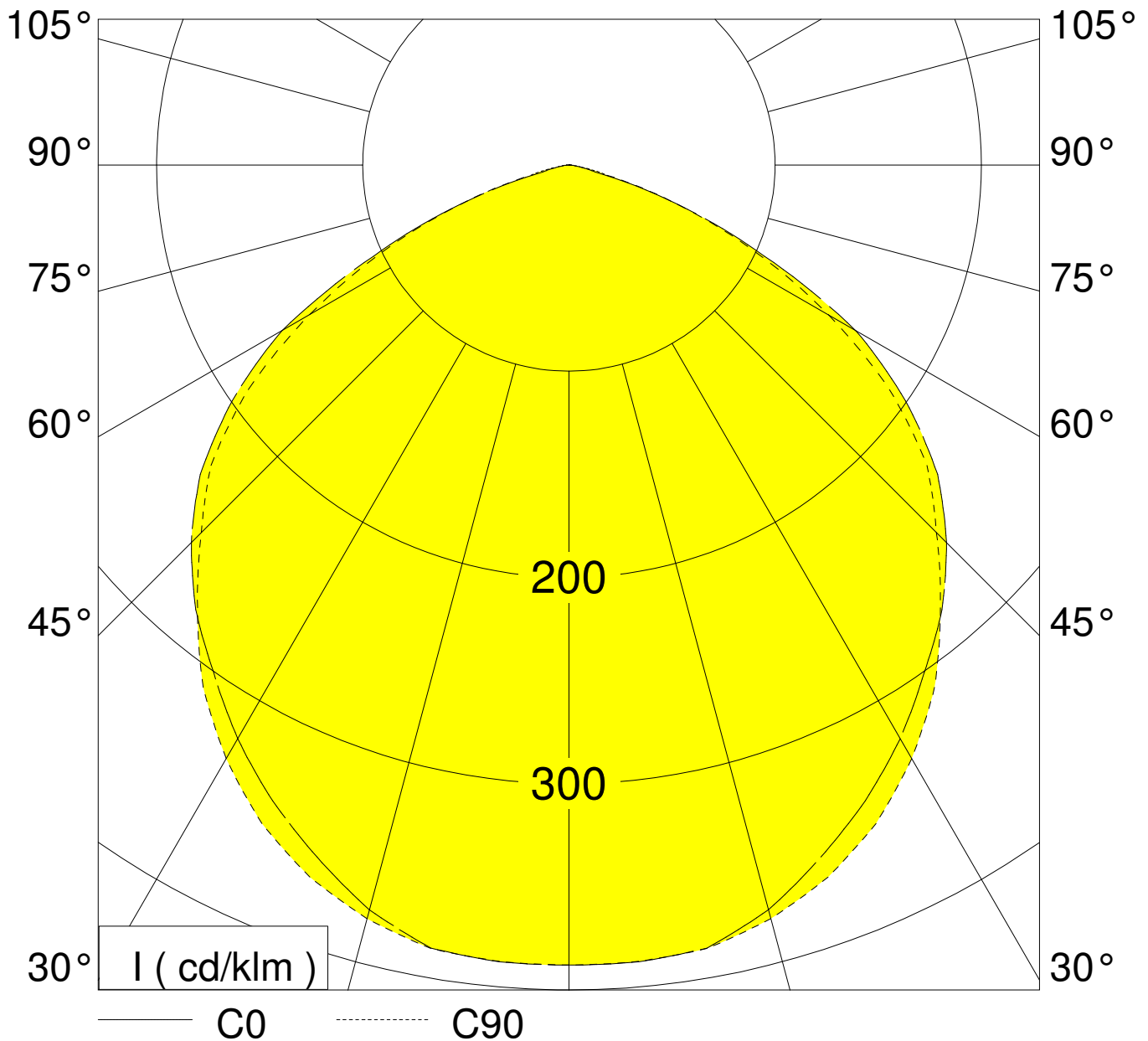
LiTG / DIN : A40  
 UTE : 1.00D  
 CIE : 52 87 99 100 100  
 BZ : 3 3 3 3 3 3 3 3  
 Ambient Temperature : 25 degC  
 Input Voltage : 240 V  
 Circuit Watts : 38.4W  
 Amps (running) : 0.172A  
 V.A. : 41.29VA  
 Power Factor : 0.93  
 CCT : 5146K (measured): 5100K (declared)  
 CRI (Ra) : 78  
 S/P Ratio : 1.8  
 Luminaire Lumens : 2840 LLm  
 Luminaire Lm/circ.Watt : 74 Lm/circ.Watt

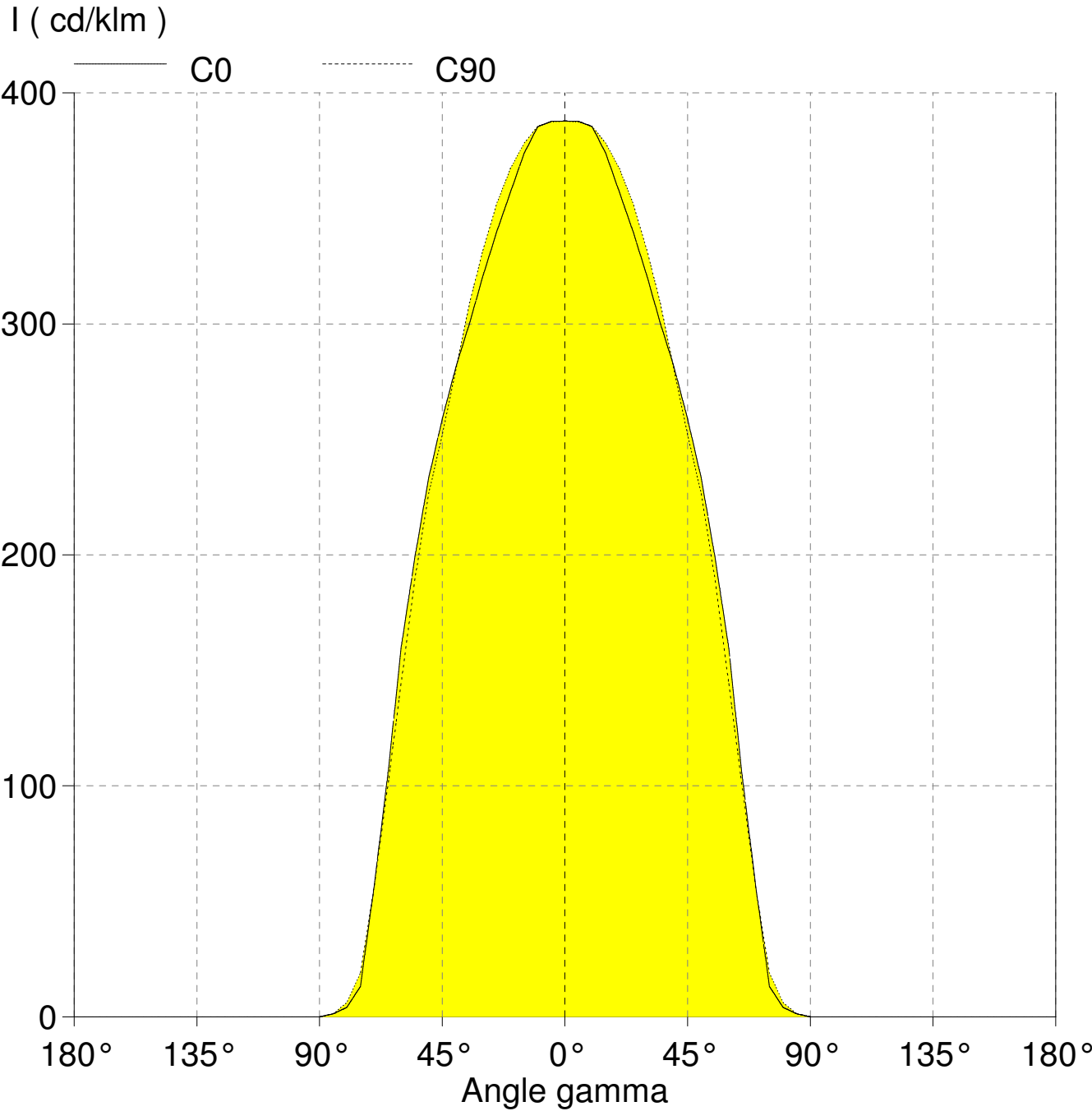


Measurements made are in absolute units. The luminaire is treated as if it was a lamp as it is not possible to measure each LED separately - hence an LOR of 100%

The Light output ratio in real terms would be less than 100%. If it was possible to compare real LED lumens with the total output from the luminaire we could obtain an actual LOR

This also means that the total lumens emitted from the LED's would be greater than the Luminaire Lumens measured. In reality the LED lumens would approximate to this value divided by the actual Light Output.





	C 0.0	C 15.0	C 30.0	C 45.0	C 60.0	C 75.0	C 90.0
0.0°	387.80	387.80	387.80	387.80	387.80	387.80	387.80
5.0°	387.70	387.20	386.80	388.10	389.30	388.40	387.50
10.0°	385.40	383.40	381.40	383.50	385.50	385.60	385.60
15.0°	373.80	373.10	372.30	375.50	378.70	378.40	378.20
20.0°	357.00	357.40	357.80	362.00	366.20	366.80	367.30
25.0°	340.00	340.30	340.60	346.60	352.40	352.30	352.20
30.0°	321.10	322.50	323.90	328.70	333.50	332.90	332.30
35.0°	300.30	302.80	305.30	308.40	311.40	310.20	309.10
40.0°	281.40	282.40	283.30	285.10	286.90	283.60	280.20
45.0°	258.90	260.20	261.50	261.00	260.40	256.20	252.00
50.0°	233.30	233.70	234.10	232.90	231.80	229.10	226.50
55.0°	199.30	200.20	201.00	200.00	199.00	194.40	189.80
60.0°	160.60	159.30	158.00	157.00	155.90	150.60	145.20
65.0°	104.50	106.10	107.60	106.00	104.50	102.10	99.70
70.0°	56.60	55.90	55.20	56.50	57.80	56.90	56.00
75.0°	13.20	14.30	15.40	18.00	20.80	19.90	19.10
80.0°	4.10	4.50	4.90	5.80	6.70	6.50	6.20
85.0°	1.30	1.30	1.30	1.30	1.30	1.30	1.30
90.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00
115.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130.0°	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
140.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175.0°	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
	cd / klm						

