Test Report

Report No	:	L17928 (Emergency)
Client:	:	Astro Lighting Ltd The Astro Building Midas, River Way Harlow Essex CM20 2GJ
Description	:	TAKETA (Emergency)
Manufacturer	:	Not Disclosed
Type/Model	:	TAKETA (Emergency)
Test Specification	:	BS EN 13032-4:2015 Clause 4.5.4
Date Testing Started	:	21/11/2018
Conclusion	:	Refer to body of report
Date of Issue	:	23/11/2018
Date of Expiry	:	22/11/2023

Tested by: **D CHAMBERS**
Position: Lead Engineer

Approved by: **N GABIR**
Position: Head of Department – Photometry

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INTRODUCTION

Astro Lighting Ltd have supplied the product identified in page one for determination of light output distribution.

PRODUCT DETAILS

Table 1. ***Test Sample Details***

Product Description	TAKETA (Emergency)
Model No.	TAKETA (Emergency)
Number of Samples	One
Condition on Receipt	Good
Nominal Dimensions (mm)	L.400 , W.400 , H.95
Product Supply Requirement	Integral battery; 3-cell NiCd, 3.6V, 4.2Ah
Lamp Type and Power	LED, 3W (Emg Driver Max)
Sampling Method: Test samples selected and supplied by client, no sampling method specified by client.	

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PROCEDURE

Table 2. ***Test Procedure and Equipment Used for Photometric Measurements***

Test Standard	BS EN 13032-4:2015 Clause 4.5.4
Equipment Used	LMT GO-DS 2000 goniophotometer (408)
Standard Lamp Used	LMT Photometer Unit 01B6081
Standard Lamp Traceability	Traceable to luminous intensity standard lamp type OSRAM Wi41/G lamp No. 934
Scan Setup	Elevation: 0°-180°, step size: 5° Azimuth: 0°-360°, step size: 5°
Power Supply	Integral battery; 3-cell NiCd, 3.6V, 4.2Ah
Power Measurement	N/A
Temperature Measurement	Testo 405i Thermal Anemometer (419)

Table 3. ***Lamp Conditioning and Setup***

Lamp ageing Time (Hours)	0
Stabilisation Time (Hours)	60
Total Operating Time (Hours)	82
Support Structure	LMT Goniophotometer Mounting Fixture

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TEST RESULTS

Table 4. ***Test Environmental and Operating Conditions***

Ambient Temperature (°C)	25.2
Voltage (VDC)	Refer to 'product supply requirement' in; Table 1
Current (mA)	Refer to 'product supply requirement' in; Table 1
Power (W)	N/A
Power Factor	1.00

Table 5. ***Beam Angle Results***

Luminous Flux of Luminaire (lm)	Luminous Efficacy (lm/W)	Centre Beam Intensity (cd)	Beam Angle *(Lamp orientation)*	Beam Angle Result (°)
336	N/A	129	Horizontal	104.1
			Vertical	104.3

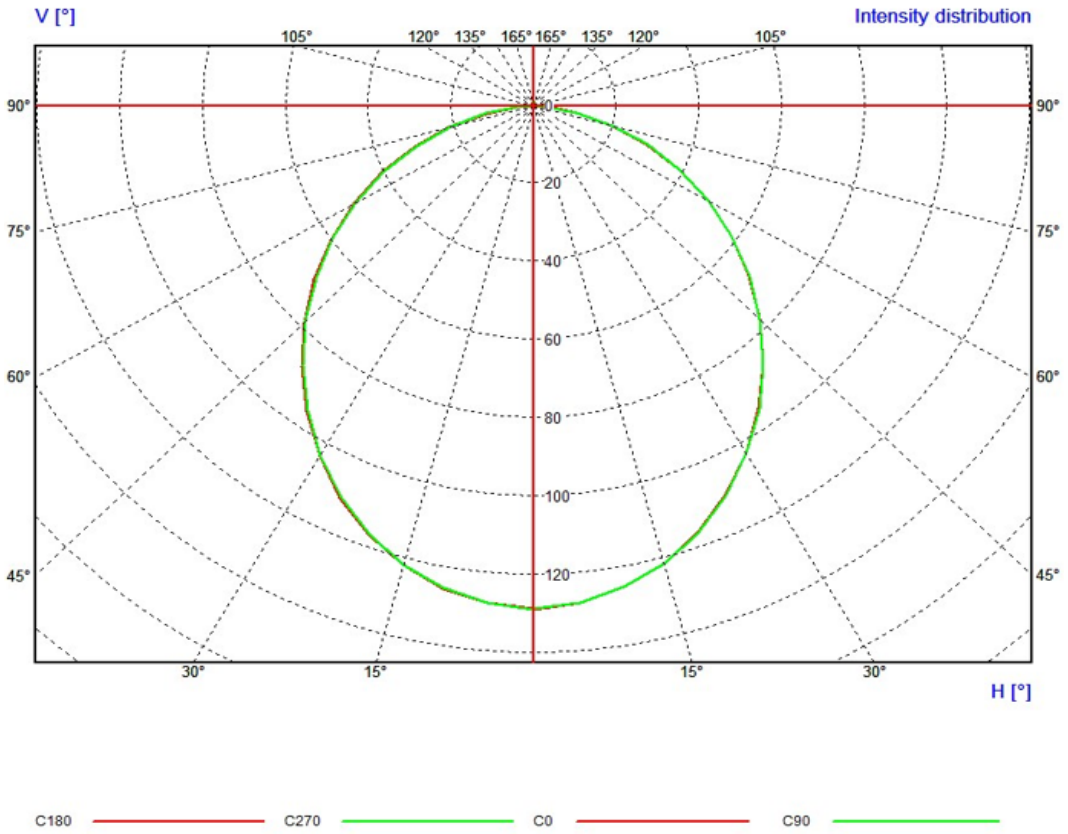

Figure 1. ***Polar Diagram***

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Table 6. ***Luminous Intensities (cd)***

Gamma	0	5	10	15	20	25	30	35	40	45	50	55
0	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.7	128.7	128.7	128.6	128.6
5	127.7	127.7	127.7	127.7	127.7	127.7	127.7	127.7	127.6	127.6	127.6	127.6
10	125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0	124.9	124.9	124.9
15	121.1	121.1	121.1	121.1	121.1	121.1	121.1	121.1	121.1	121.0	121.0	121.0
20	115.8	115.8	115.8	115.8	116.0	116.0	116.0	116.0	116.0	116.0	116.0	116.0
25	109.6	109.6	109.6	109.6	109.6	109.6	109.6	109.6	109.6	109.6	109.6	109.6
30	102.5	102.5	102.5	102.5	102.4	102.4	102.4	102.4	102.4	102.4	102.4	102.4
35	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.3	94.5	94.5
40	86.0	85.9	85.9	85.9	85.9	85.9	85.9	85.9	85.8	85.8	85.8	85.9
45	77.0	77.0	77.0	77.0	77.0	76.9	76.9	76.9	76.8	76.8	76.8	76.9
50	67.7	67.7	67.7	67.7	67.7	67.6	67.6	67.6	67.6	67.6	67.6	67.6
55	58.2	58.1	58.1	58.1	58.1	58.1	58.0	58.0	58.0	58.0	58.0	58.0
60	48.5	48.4	48.4	48.4	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3
65	38.7	38.6	38.6	38.5	38.5	38.5	38.5	38.5	38.4	38.4	38.4	38.5
70	28.9	28.9	28.8	28.8	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7
75	19.4	19.3	19.2	19.2	19.2	19.2	19.1	19.1	19.1	19.1	19.1	19.1
80	10.3	10.3	10.2	10.2	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
85	3.2	3.2	3.1	3.1	3.1	3.1	3.0	3.0	3.0	3.0	3.0	3.1
90	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
95	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.1	0.2	0.2
100	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
105	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
110	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
115	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
120	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
125	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
130	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
135	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
140	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
145	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
150	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
155	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
160	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
165	0.7	0.7	0.7	0.7	0.8	0.8	0.7	0.7	0.7	0.7	0.8	0.7
170	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
175	1.0	0.9	0.9	0.9	1.0	1.0	1.0	0.9	0.9	0.9	1.0	1.0
180	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

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Table 6 *Continued…*

Gamma	60	65	70	75	80	85	90	95	100	105	110	115
0	128.6	128.7	128.7	128.7	128.6	128.6	128.7	128.7	128.7	128.7	128.7	128.7
5	127.6	127.6	127.6	127.6	127.6	127.6	127.7	127.7	127.7	127.7	127.7	127.7
10	124.9	124.9	125.0	125.0	125.0	125.0	125.1	125.1	125.1	125.1	125.2	125.2
15	121.1	121.1	121.1	121.1	121.2	121.2	121.3	121.3	121.4	121.4	121.4	121.4
20	116.0	116.1	116.1	116.1	116.1	116.1	116.2	116.2	116.3	116.3	116.4	116.4
25	109.6	109.6	109.6	109.7	109.8	109.8	109.9	109.9	110.0	110.0	110.1	110.1
30	102.5	102.5	102.6	102.6	102.6	102.6	102.7	102.7	102.8	102.9	103.0	103.0
35	94.5	94.5	94.6	94.6	94.7	94.7	94.8	94.8	94.9	94.9	95.0	95.1
40	85.9	85.9	86.0	86.0	86.0	86.1	86.2	86.2	86.3	86.4	86.5	86.5
45	76.9	77.0	77.0	77.0	77.1	77.2	77.2	77.3	77.4	77.5	77.5	77.6
50	67.6	67.7	67.7	67.7	67.8	67.9	68.0	68.1	68.2	68.2	68.3	68.4
55	58.0	58.1	58.1	58.1	58.2	58.3	58.3	58.4	58.5	58.5	58.7	58.8
60	48.3	48.4	48.4	48.5	48.5	48.5	48.6	48.7	48.7	48.8	49.0	49.1
65	38.5	38.5	38.5	38.6	38.6	38.7	38.8	38.8	38.9	39.0	39.1	39.2
70	28.7	28.7	28.7	28.8	28.8	28.9	29.0	29.1	29.1	29.2	29.4	29.5
75	19.1	19.2	19.2	19.2	19.3	19.3	19.4	19.5	19.6	19.7	19.8	19.9
80	10.1	10.1	10.2	10.2	10.3	10.3	10.4	10.4	10.5	10.6	10.7	10.8
85	3.1	3.1	3.1	3.2	3.2	3.2	3.3	3.3	3.3	3.4	3.5	3.5
90	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
95	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.1
100	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
105	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
110	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
115	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
120	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
125	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
130	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2
135	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
140	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3
145	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
150	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
155	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
160	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
165	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.7	0.7
170	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
175	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
180	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

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Table 6 *Continued…*

Gamma	120	125	130	135	140	145	150	155	160	165	170	175
0	128.7	128.7	128.6	128.6	128.6	128.6	128.6	128.6	128.6	128.6	128.6	128.6
5	127.7	127.7	127.7	127.7	127.7	127.7	127.7	127.7	127.7	127.7	127.7	127.8
10	125.4	125.4	125.4	125.4	125.4	125.4	125.4	125.4	125.5	125.5	125.5	125.5
15	121.4	121.4	121.4	121.4	121.4	121.4	121.5	121.5	121.6	121.6	121.6	121.6
20	116.4	116.4	116.5	116.5	116.5	116.5	116.5	116.6	116.6	116.6	116.6	116.6
25	110.2	110.2	110.2	110.2	110.3	110.3	110.5	110.5	110.5	110.6	110.6	110.7
30	103.1	103.1	103.1	103.2	103.2	103.2	103.3	103.3	103.4	103.4	103.4	103.5
35	95.2	95.2	95.3	95.3	95.4	95.5	95.5	95.5	95.6	95.6	95.6	95.7
40	86.6	86.7	86.7	86.8	86.8	86.9	87.0	87.0	87.1	87.2	87.2	87.2
45	77.7	77.8	77.8	77.9	77.9	78.0	78.1	78.1	78.2	78.3	78.3	78.3
50	68.5	68.5	68.6	68.7	68.7	68.8	68.9	69.0	69.0	69.1	69.1	69.2
55	58.8	58.9	59.0	59.0	59.1	59.2	59.3	59.4	59.4	59.5	59.6	59.6
60	49.2	49.2	49.3	49.4	49.5	49.6	49.6	49.7	49.8	49.9	49.9	50.0
65	39.4	39.4	39.6	39.6	39.7	39.8	39.9	40.0	40.1	40.1	40.2	40.3
70	29.6	29.7	29.7	29.9	29.9	30.0	30.1	30.2	30.3	30.4	30.4	30.5
75	20.0	20.1	20.2	20.2	20.3	20.5	20.5	20.6	20.7	20.8	20.8	20.9
80	10.9	11.0	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.6	11.7	11.8
85	3.6	3.7	3.7	3.8	3.8	3.9	4.0	4.0	4.1	4.1	4.2	4.2
90	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3
95	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1
100	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
105	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
110	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
115	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
120	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
125	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
130	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
135	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
140	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4
145	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5
150	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6
155	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
160	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
165	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.7
170	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
175	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
180	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

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Table 6 *Continued…*

Gamma	180	185	190	195	200	205	210	215	220	225	230	235
0	128.6	128.9	128.9	128.9	128.9	128.9	128.9	128.8	128.8	128.7	128.7	128.7
5	127.8	127.8	127.8	127.8	127.8	127.8	127.7	127.7	127.7	127.7	127.6	127.6
10	125.5	125.5	125.5	125.5	125.5	125.5	125.5	125.5	125.4	125.4	125.4	125.3
15	121.6	121.6	121.7	121.6	121.6	121.6	121.6	121.6	121.5	121.5	121.5	121.5
20	116.7	116.7	116.7	116.7	116.7	116.7	116.7	116.6	116.6	116.6	116.6	116.6
25	110.7	110.7	110.7	110.7	110.8	110.7	110.7	110.7	110.6	110.6	110.6	110.6
30	103.5	103.5	103.6	103.6	103.6	103.6	103.5	103.5	103.4	103.4	103.4	103.3
35	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.6	95.6	95.6	95.6	95.5
40	87.2	87.3	87.4	87.4	87.4	87.4	87.4	87.3	87.3	87.3	87.2	87.2
45	78.4	78.4	78.4	78.4	78.4	78.5	78.4	78.4	78.4	78.3	78.3	78.2
50	69.2	69.3	69.3	69.4	69.4	69.4	69.3	69.3	69.2	69.2	69.2	69.2
55	59.7	59.7	59.7	59.7	59.8	59.8	59.8	59.8	59.8	59.7	59.7	59.7
60	50.0	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.0	50.0	50.0
65	40.3	40.4	40.4	40.4	40.4	40.5	40.5	40.5	40.4	40.4	40.4	40.3
70	30.6	30.6	30.6	30.7	30.7	30.8	30.7	30.7	30.7	30.7	30.6	30.6
75	21.0	21.0	21.1	21.1	21.1	21.2	21.2	21.2	21.2	21.2	21.1	21.1
80	11.8	11.9	11.9	11.9	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
85	4.3	4.3	4.3	4.4	4.4	4.4	4.5	4.5	4.5	4.5	4.5	4.4
90	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
95	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
100	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
105	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
110	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
115	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
120	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
125	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
130	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
135	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
140	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
145	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
150	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6
155	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
160	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
165	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
170	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
175	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
180	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Continued on following page

Table 6 *Continued…*

Gamma	240	245	250	255	260	265	270	275	280	285	290	295
0	128.7	128.8	128.8	128.8	128.8	128.8	128.9	128.9	128.8	128.8	128.8	128.8
5	127.6	127.6	127.6	127.6	127.6	127.6	127.6	127.6	127.6	127.6	127.6	127.6
10	125.3	125.3	125.3	125.3	125.3	125.3	125.3	125.2	125.2	125.2	125.2	125.2
15	121.4	121.4	121.6	121.5	121.5	121.5	121.5	121.5	121.5	121.5	121.5	121.4
20	116.5	116.5	116.5	116.4	116.4	116.4	116.4	116.4	116.3	116.3	116.3	116.2
25	110.5	110.5	110.4	110.4	110.3	110.4	110.3	110.3	110.3	110.2	110.1	110.1
30	103.3	103.2	103.2	103.2	103.2	103.2	103.1	103.0	103.1	103.1	103.0	103.0
35	95.5	95.5	95.4	95.4	95.3	95.3	95.2	95.2	95.1	95.1	95.0	95.0
40	87.1	87.1	87.0	86.9	86.9	86.8	86.8	86.7	86.7	86.7	86.6	86.6
45	78.2	78.1	78.1	78.0	78.0	78.0	77.9	77.8	77.8	77.7	77.7	77.6
50	69.1	69.1	69.0	68.9	68.9	68.8	68.7	68.7	68.6	68.6	68.5	68.5
55	59.6	59.6	59.5	59.4	59.4	59.3	59.3	59.2	59.2	59.1	59.0	59.0
60	49.9	49.9	49.9	49.8	49.7	49.6	49.6	49.5	49.5	49.4	49.4	49.4
65	40.3	40.2	40.2	40.1	40.1	40.0	39.9	39.9	39.8	39.8	39.7	39.7
70	30.6	30.5	30.5	30.5	30.4	30.4	30.3	30.2	30.2	30.1	30.0	29.9
75	21.1	21.0	21.0	20.9	20.9	20.8	20.7	20.7	20.6	20.5	20.5	20.4
80	12.0	11.9	11.9	11.8	11.8	11.7	11.7	11.6	11.5	11.4	11.4	11.3
85	4.4	4.4	4.3	4.3	4.3	4.2	4.2	4.1	4.1	4.0	4.0	3.9
90	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.2
95	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
100	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
105	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
110	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
115	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
120	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
125	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
130	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
135	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
140	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
145	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
150	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
155	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
160	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
165	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8
170	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
175	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	0.9	0.9	1.0	0.9
180	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

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Table 6 *Continued…*

Gamma	300	305	310	315	320	325	330	335	340	345	350	355
0	128.8	128.8	128.7	128.7	128.7	128.7	128.7	128.7	128.7	128.8	128.8	128.8
5	127.6	127.6	127.5	127.7	127.7	127.7	127.7	127.7	127.7	127.7	127.7	127.7
10	125.1	125.1	125.1	125.0	124.9	124.9	124.9	124.9	124.9	124.9	124.9	125.0
15	121.4	121.3	121.3	121.2	121.2	121.2	121.1	121.1	121.1	121.1	121.1	121.1
20	116.2	116.1	116.1	116.0	116.0	116.0	115.9	115.8	115.8	115.8	115.8	115.8
25	110.0	109.9	109.8	109.7	109.7	109.7	109.7	109.7	109.7	109.7	109.6	109.6
30	102.9	102.9	102.8	102.7	102.7	102.6	102.6	102.6	102.5	102.5	102.5	102.5
35	94.9	94.8	94.8	94.7	94.7	94.6	94.6	94.5	94.5	94.5	94.5	94.4
40	86.5	86.4	86.3	86.3	86.2	86.2	86.1	86.1	86.0	86.0	86.0	86.0
45	77.5	77.5	77.4	77.4	77.4	77.3	77.3	77.2	77.1	77.1	77.1	77.1
50	68.4	68.3	68.2	68.2	68.1	68.1	68.0	67.9	67.9	67.8	67.8	67.8
55	58.9	58.9	58.8	58.7	58.6	58.5	58.5	58.4	58.4	58.3	58.3	58.2
60	49.3	49.2	49.1	49.0	48.9	48.8	48.8	48.7	48.7	48.6	48.6	48.5
65	39.6	39.5	39.4	39.3	39.2	39.1	39.0	39.0	38.9	38.9	38.8	38.7
70	29.9	29.8	29.7	29.6	29.5	29.4	29.4	29.3	29.2	29.1	29.1	29.0
75	20.3	20.2	20.1	20.0	19.9	19.9	19.8	19.7	19.6	19.6	19.5	19.4
80	11.2	11.2	11.1	11.0	10.9	10.8	10.8	10.7	10.6	10.5	10.5	10.4
85	3.9	3.8	3.8	3.7	3.6	3.6	3.5	3.4	3.4	3.3	3.3	3.2
90	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
95	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.2
100	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
105	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
110	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
115	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
120	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
125	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2
130	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
135	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
140	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
145	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.5
150	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5
155	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
160	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
165	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.8	0.8	0.7	0.7	0.7
170	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
175	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	0.9	0.9	0.9
180	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

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CONE DIAGRAM

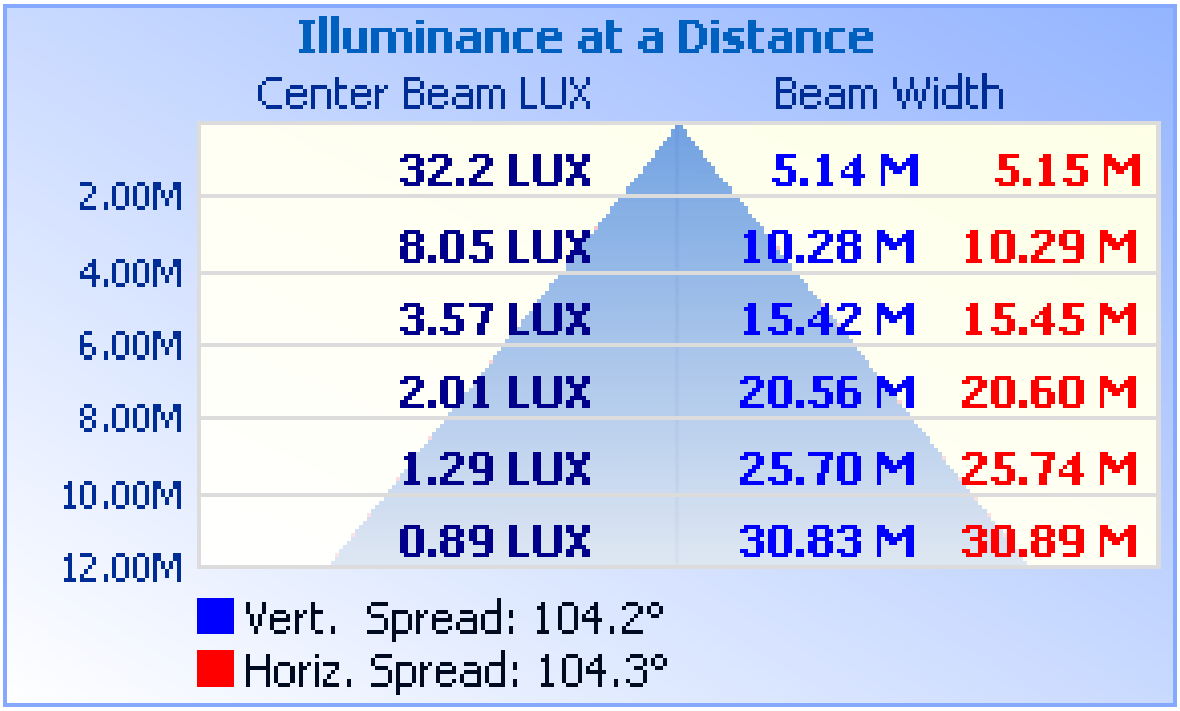

Figure 2. ***Cone diagram for mounting height up to 12 metres***

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UNIFIED GLARE RATING

Table 7. ***Unified Glare Rating***

Ceiling Reflectance		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall Reflectance		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Floor Cavity Reflectance		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room Dimension		Viewed endwise					Viewed crosswise				
2H	2H	11.1	12.7	11.4	13	13.3	11.2	12.8	11.6	13.1	13.4
2H	3H	12.5	14	12.9	14.3	14.7	12.7	14.2	13.1	14.5	14.9
2H	4H	13.1	14.4	13.5	14.8	15.2	13.3	14.7	13.7	15	15.4
2H	6H	13.5	14.7	13.9	15.1	15.5	13.7	15	14.2	15.4	15.8
2H	8H	13.5	14.7	13.9	15.1	15.5	13.8	15	14.2	15.4	15.8
2H	12H	13.5	14.7	13.9	15.1	15.5	13.9	15	14.3	15.4	15.8
4H	2H	11.8	13.1	12.2	13.5	13.9	11.9	13.3	12.3	13.6	14
4H	3H	13.4	14.6	13.8	14.9	15.4	13.6	14.7	14	15.1	15.6
4H	4H	14.1	15.1	14.5	15.5	16	14.3	15.4	14.8	15.8	16.2
4H	6H	14.5	15.4	15	15.9	16.3	14.8	15.7	15.3	16.2	16.6
4H	8H	14.6	15.5	15.1	15.9	16.4	15	15.8	15.4	16.3	16.7
4H	12H	14.7	15.5	15.2	15.9	16.4	15.1	15.8	15.5	16.3	16.8
8H	4H	14.3	15.2	14.8	15.6	16.1	14.6	15.4	15.1	15.9	16.4
8H	6H	14.8	15.6	15.3	16	16.5	15.2	15.9	15.7	16.4	16.9
8H	8H	15.1	15.7	15.6	16.2	16.7	15.4	16.1	16	16.6	17.1
8H	12H	15.1	15.7	15.7	16.2	16.7	15.6	16.1	16.1	16.6	17.1
12H	4H	14.4	15.1	14.9	15.6	16.1	14.6	15.4	15.1	15.9	16.4
12H	6H	14.9	15.6	15.5	16.1	16.6	15.3	15.9	15.8	16.4	16.9
12H	8H	15.1	15.6	15.7	16.2	16.7	15.5	16	16	16.5	17.1

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DEVIATION(S) FROM TEST STANDARD

No reported deviations from test standard.

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IDENTIFICATION OF PHOTOMETRIC CENTRE

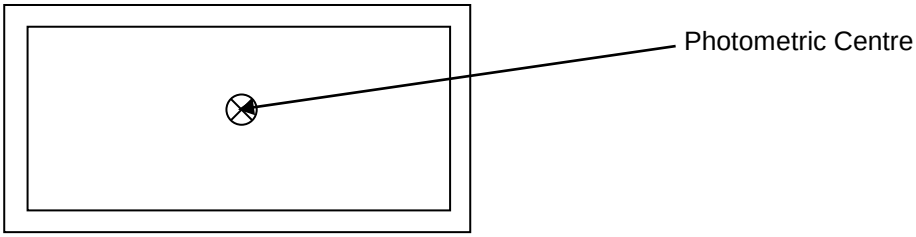

Figure 3. ***Product photometric centre***

ILLUSTRATION

Figure 4. ***Product image***

End