

T e s t R e p o r t

Report No : LS1421G

Client: : TLC Southern Ltd
The TLC Building,
5 Newton Road,
Crawley,
West Sussex,
RH10 9TS

Description : Flip Chip LED HIGH BAY 220W

Manufacturer : LEDLITE

Type/Model : LTHBF220

Test Specification : Determination of Light Output Distribution Light Distribution measurements were made with reference to CIE 127 – 2007, clause 6.2.1; Goniophotometry Method

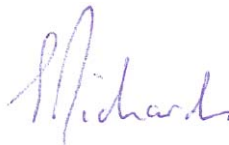
Date Testing Started : 17/05/2016

Conclusion : Refer to body of report

Date of Issue : 23/05/2016

Date of Expiry : 22/05/2021

Tested by: **S. RICHARDS**
Position: Photometrics Team
Leader



Approved by: **T. MALIK**
Position: Quality and Operations
Manager



INTRODUCTION

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

PRODUCT DETAILS

Table 1. Test Sample Details

Product Description	Flip Chip LED HIGH BAY 220W
Model No.	LTHBF220
Number of Samples	1
Condition on Receipt	Good
Nominal Dimensions	400 x 350mm
Product Supply Requirement	85-265V AC 50Hz
Lamp Type and Power	LED 220W
Sampling Method: Test samples selected and supplied by client, no sampling method specified by client.	

Continued on following page

PROCEDURE

Table 2. Test Procedure and Equipment Used for Photometric Measurements

Test Standard	CIE 127 – 2007, clause 6.2.1; Goniophotometry Method
Equipment Used	LMT GO-DS 2000 goniophotometer
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	LMT GO-DS 2000 goniophotometer
Power Measurement	LMT GO-DS 2000 goniophotometer
Temperature Measurement	Testo 925 Thermocouple reader (143)

Table 3. Lamp Conditioning and Setup

Lamp ageing Time (Hours)	0
Stabilisation Time (Hours)	1.0
Total Operating Time (Hours)	1.66
Support Structure	Goniophotometer luminaire mounting fixture

Continued on following page

TEST RESULTS

Table 4. Test Environmental and Operating Conditions

Ambient Temperature (°C)	25.0
Voltage (V)	240.2
Current (mA)	902.4
Power (W)	210.3
Power Factor	0.97

Table 5. Beam Angle and Luminous Flux Results

Centre Beam Intensity (cd)	Beam Angle (Lamp orientation)	Beam Angle Result (°)
11006.9	0-180	90.5
	90-270	91.3

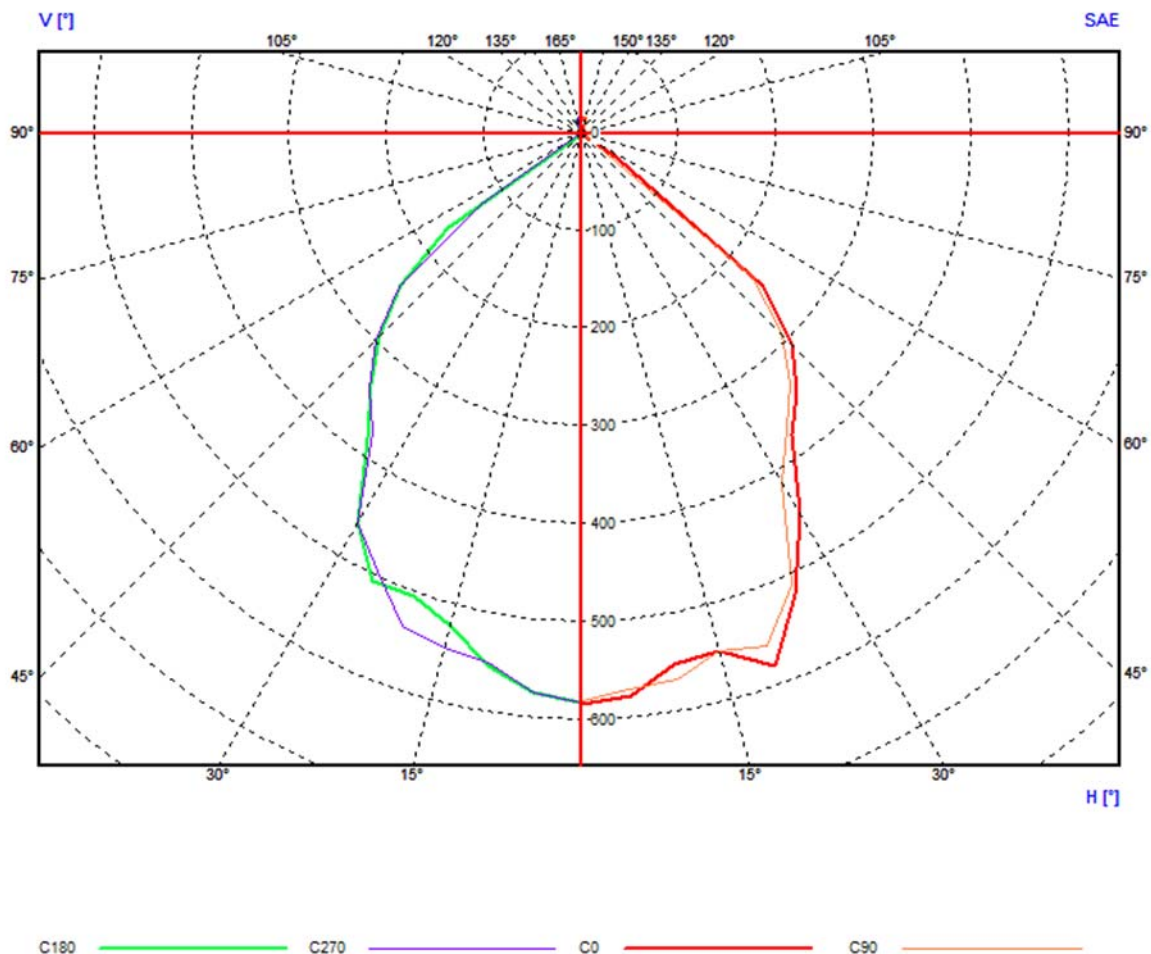


Figure 1. Polar Diagram

Continued on following page

This page is to be read in conjunction with the first page of this report

Table 6. Luminous Intensities (cd)

Gamma	0	5	10	15	20	25	30	35	40	45	50	55
0	10863.9	10858.6	10848.0	10842.7	10840.0	10837.4	10840.0	10832.1	10832.1	10837.4	10840.0	10840.0
5	10768.5	10776.5	10776.5	10779.1	10776.5	10779.1	10771.2	10757.9	10744.7	10728.8	10704.9	10697.0
10	10283.7	10389.7	10514.2	10601.6	10694.3	10704.9	10712.9	10704.9	10694.3	10667.9	10649.3	10649.3
15	10196.3	10199.0	10244.0	10355.3	10511.6	10644.0	10816.2	10776.5	10818.9	10752.6	10731.4	10731.4
20	10805.6	10842.7	11006.9	10731.4	10723.5	10691.7	10832.1	10707.6	10765.9	10683.8	10532.8	10524.8
25	9682.4	9822.8	9936.7	10058.6	9995.0	9817.5	9650.6	9576.4	9406.9	9314.2	9115.5	9152.6
30	8363.2	8206.9	8077.0	7812.1	7600.2	7499.5	7473.1	7481.0	7404.2	7404.2	7385.6	7398.9
35	7009.5	6967.1	6895.6	6824.0	6734.0	6681.0	6657.1	6657.1	6675.7	6702.2	6752.5	6810.8
40	6413.4	6371.0	6278.3	6153.8	6055.8	6029.3	6029.3	6000.2	5986.9	6021.4	6071.7	6161.8
45	5666.4	5655.8	5502.1	5367.0	5298.2	5266.4	5226.6	5210.7	5216.0	5197.5	5253.1	5340.5
50	4551.1	4612.1	4498.1	4405.4	4328.6	4294.2	4235.9	4217.3	4198.8	4135.2	4116.7	4114.0
55	866.2	731.1	516.6	360.3	259.6	193.4	140.4	95.4	71.5	63.6	55.6	50.3
60	12.9	11.9	11.7	11.6	11.4	11.3	11.1	10.9	10.7	10.6	10.4	10.3
65	7.7	7.6	7.6	7.5	7.4	7.3	7.2	7.1	7.0	6.9	6.8	6.7
70	5.2	5.2	5.2	5.2	5.2	5.2	5.1	5.1	5.0	5.0	4.8	4.8
75	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.3	3.3	3.2	3.2	3.1
80	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.7	1.7	1.7	1.6	1.6
85	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.4
90	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
95	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
100	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6
105	1.7	1.7	1.7	1.7	1.6	1.6	1.5	1.5	1.4	1.4	1.4	1.4
110	7.2	7.2	7.2	7.1	7.0	6.9	6.8	6.7	6.7	6.6	6.6	6.6
115	30.8	30.9	31.0	30.9	30.5	30.1	29.9	29.7	29.7	29.6	29.7	29.8
120	34.6	34.9	35.0	34.9	34.5	33.9	33.4	32.9	32.5	32.1	31.7	31.5
125	29.2	29.2	29.2	29.0	28.5	27.9	27.3	26.8	26.3	25.8	25.3	25.0
130	27.1	27.0	27.0	26.7	26.2	25.7	25.2	24.6	24.1	23.6	23.1	22.7
135	29.0	28.9	28.8	28.4	27.9	27.5	27.2	26.8	26.4	26.0	25.9	25.8
140	39.3	39.3	39.3	39.3	39.2	39.1	39.1	39.0	38.9	38.8	38.7	38.7
145	60.2	60.2	60.2	60.1	60.0	59.9	59.9	59.8	59.8	59.7	59.7	59.8
150	93.1	93.1	93.2	93.3	93.3	93.2	93.1	93.0	93.0	93.0	92.9	92.9
155	166.5	166.8	167.1	167.3	167.5	167.8	167.9	168.0	168.2	168.2	168.0	168.0
160	252.5	253.0	253.8	254.3	255.4	256.4	257.2	258.0	258.8	259.3	259.3	259.3
165	289.5	290.1	291.1	292.2	293.5	295.1	296.7	298.3	299.6	300.7	301.5	302.5
170	286.9	287.2	288.2	289.0	290.3	291.7	293.3	295.1	297.0	299.1	300.4	301.5
175	261.2	260.9	260.9	261.2	261.7	263.3	264.9	265.7	267.6	268.9	269.7	271.3
180	251.9	252.5	252.7	253.0	253.5	253.8	254.3	255.1	256.4	257.0	257.2	257.5

Continued on following page

This page is to be read in conjunction with the first page of this report

Table 6 Continued...

Gamma	60	65	70	75	80	85	90	95	100	105	110	115
0	10837.4	10832.1	10832.1	10829.5	10832.1	10824.2	10818.9	10829.5	10834.7	10840.0	10837.4	10832.1
5	10691.7	10689.0	10667.9	10665.2	10652.0	10646.7	10630.8	10633.4	10630.8	10633.4	10633.4	10641.4
10	10636.1	10662.6	10659.9	10673.2	10633.4	10609.6	10551.3	10487.7	10408.2	10326.1	10254.6	10196.3
15	10667.9	10617.5	10585.7	10490.4	10392.4	10320.8	10204.3	10071.8	9968.5	9902.3	9870.5	9851.9
20	10514.2	10352.6	10384.4	10328.8	10246.7	10273.1	10384.4	10312.9	10389.7	10418.8	10206.9	10082.4
25	9081.1	9126.1	9123.4	9245.3	9293.0	9338.0	9475.8	9467.8	9563.2	9497.0	9356.6	9149.9
30	7417.4	7446.6	7467.8	7494.3	7555.2	7610.8	7679.7	7793.6	7775.1	7934.0	7862.5	7971.1
35	6832.0	6842.6	6858.5	6832.0	6837.3	6850.5	6842.6	6816.1	6794.9	6744.6	6686.3	6654.5
40	6243.9	6243.9	6217.4	6180.3	6177.7	6190.9	6206.8	6206.8	6132.6	6032.0	5957.8	5931.3
45	5454.5	5457.1	5375.0	5348.5	5348.5	5332.6	5406.8	5433.3	5308.8	5179.0	5128.6	5104.8
50	4190.8	4164.4	4127.3	4153.8	4140.5	4145.8	4270.3	4371.0	4259.7	4169.7	4098.1	4063.7
55	47.7	47.7	47.7	53.0	58.3	63.6	74.2	124.5	384.1	638.4	959.0	1364.3
60	10.2	10.1	10.1	10.1	10.1	10.1	10.2	10.3	10.4	10.5	11.0	15.3
65	6.6	6.6	6.6	6.5	6.6	6.6	6.6	6.7	6.8	6.9	7.0	7.1
70	4.7	4.7	4.7	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.7
75	3.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
80	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.7
85	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.7
90	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
95	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
100	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.8
105	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.6	1.6	1.6	1.6	1.7
110	6.7	6.8	6.9	6.9	6.9	6.9	6.9	7.0	7.1	7.1	7.0	7.0
115	30.1	30.5	30.9	31.0	30.8	30.6	30.5	30.7	31.0	31.0	30.8	30.4
120	31.4	31.5	31.9	32.1	32.0	32.0	32.3	32.8	33.5	33.9	34.0	33.9
125	24.7	24.7	24.8	24.9	25.0	25.1	25.4	25.9	26.6	27.2	27.4	27.6
130	22.3	22.2	22.2	22.2	22.1	22.0	21.9	21.9	21.9	21.7	21.8	22.2
135	25.7	25.7	25.7	25.7	25.8	26.0	26.2	26.5	26.8	27.2	27.5	27.8
140	38.6	38.6	38.6	38.6	38.6	38.7	38.8	38.9	38.9	38.9	39.1	39.3
145	59.7	59.7	59.7	59.8	59.8	59.8	59.8	60.0	60.2	60.3	60.5	60.5
150	92.8	92.8	92.8	92.9	92.9	93.0	93.0	93.0	93.1	93.1	93.2	93.4
155	167.9	168.0	167.8	167.5	167.2	167.1	167.1	166.9	166.4	166.0	165.9	165.7
160	259.1	258.6	258.0	257.5	257.0	256.2	255.4	255.1	254.8	254.3	253.5	253.0
165	303.1	303.3	303.1	303.1	303.1	302.8	302.5	301.7	301.5	300.9	300.1	299.6
170	302.8	303.6	304.6	306.0	307.0	307.0	306.2	306.2	306.8	306.2	304.9	303.6
175	272.3	273.1	273.4	273.1	273.9	274.4	274.2	273.1	272.3	273.1	272.9	272.1
180	257.2	258.0	258.0	258.3	258.6	258.0	256.7	256.2	257.0	257.8	258.3	257.8

Continued on following page

This page is to be read in conjunction with the first page of this report

Table 6 Continued...

Gamma	120	125	130	135	140	145	150	155	160	165	170	175
0	10837.4	10834.7	10834.7	10832.1	10845.3	10845.3	10842.7	10837.4	10837.4	10832.1	10826.8	10826.8
5	10649.3	10659.9	10673.2	10683.8	10699.6	10694.3	10707.6	10710.2	10704.9	10697.0	10694.3	10686.4
10	10159.2	10127.4	10106.3	10103.6	10140.7	10193.7	10233.4	10249.3	10252.0	10249.3	10252.0	10270.5
15	9894.3	9886.4	9857.2	9740.7	9685.0	9642.7	9557.9	9502.3	9489.0	9510.2	9560.5	9610.9
20	9836.0	9632.1	9504.9	9428.1	9444.0	9454.6	9444.0	9385.7	9324.8	9271.8	9261.2	9282.4
25	9107.5	9051.9	9192.3	9218.8	9343.3	9306.2	9181.7	9197.6	9189.7	9261.2	9316.8	9428.1
30	8024.1	8124.7	8310.2	8320.8	8336.7	8307.5	8299.6	8318.1	8376.4	8381.7	8410.8	8530.0
35	6643.9	6691.6	6776.4	6932.6	7067.8	7271.7	7351.2	7369.7	7367.1	7308.8	7242.6	7136.6
40	5928.6	5939.2	5936.6	5981.6	6077.0	6167.1	6259.8	6286.3	6275.7	6257.1	6270.4	6286.3
45	5110.1	5112.7	5131.3	5147.2	5205.4	5353.8	5465.1	5465.1	5425.3	5438.6	5459.8	5496.8
50	4076.9	4100.8	4137.9	4177.6	4249.1	4352.4	4471.6	4429.3	4352.4	4389.5	4410.7	4484.9
55	1766.9	2196.1	2585.5	2842.5	2914.0	2974.9	3080.9	3006.7	2951.1	2937.8	2974.9	3067.6
60	22.8	32.1	42.0	51.0	59.5	65.0	67.2	67.7	66.6	64.2	61.8	59.5
65	7.3	7.4	7.6	7.8	8.1	8.4	8.7	9.1	9.4	9.7	10.1	10.4
70	4.7	4.8	4.9	5.0	5.2	5.4	5.6	5.8	6.0	6.3	6.5	6.8
75	3.1	3.1	3.2	3.3	3.4	3.5	3.6	3.8	4.0	4.2	4.4	4.6
80	1.7	1.7	1.8	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.6	2.7
85	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.9	1.0	1.1	1.2	1.3
90	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
95	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
100	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.6	0.6	0.6
105	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.5	1.5	1.4	1.4
110	7.0	7.0	7.0	7.0	7.0	7.0	7.1	7.1	7.1	7.0	6.9	6.8
115	30.1	30.0	30.0	30.0	30.1	30.3	30.5	30.7	31.1	31.2	31.1	30.7
120	33.8	33.8	33.9	34.0	34.2	34.4	34.5	34.6	34.8	34.6	34.0	33.0
125	27.7	27.7	27.7	27.6	27.6	27.7	27.8	27.9	27.9	27.4	26.7	26.0
130	22.8	23.5	24.2	24.9	25.4	25.8	26.0	26.1	26.1	25.6	24.9	24.1
135	28.1	28.3	28.6	28.7	28.8	28.9	28.8	28.6	28.3	27.8	27.3	26.8
140	39.4	39.5	39.7	39.7	39.8	39.8	39.8	39.8	39.8	39.7	39.7	39.6
145	60.5	60.6	60.8	60.8	61.0	61.1	61.0	61.0	61.1	60.9	60.9	60.8
150	93.4	93.4	93.4	93.4	93.4	93.4	93.3	93.3	93.3	93.4	93.4	93.4
155	165.5	165.2	165.1	165.0	164.9	164.7	164.5	164.3	164.4	164.0	163.9	163.9
160	252.7	252.2	251.9	251.4	250.9	250.3	249.5	249.3	249.0	248.5	248.5	248.5
165	299.1	297.8	296.4	295.4	294.6	293.5	292.5	290.9	289.8	288.7	288.0	287.4
170	302.5	300.9	299.6	298.3	296.4	294.6	293.0	291.4	290.1	289.0	288.0	287.4
175	271.8	271.5	271.0	270.2	269.1	267.8	266.5	265.7	264.4	262.8	262.5	262.0
180	257.0	255.9	255.6	255.4	255.1	254.6	253.8	253.5	253.0	252.5	252.5	252.7

Continued on following page

This page is to be read in conjunction with the first page of this report

Table 6 Continued...

Gamma	180	185	190	195	200	205	210	215	220	225	230	235
0	10834.7	10829.5	10834.7	10834.7	10842.7	10837.4	10837.4	10837.4	10853.3	10861.2	10855.9	10855.9
5	10683.8	10675.8	10681.1	10686.4	10689.0	10699.6	10707.6	10702.3	10702.3	10702.3	10702.3	10704.9
10	10291.7	10304.9	10310.2	10304.9	10291.7	10262.5	10246.7	10265.2	10302.3	10347.3	10368.5	10371.2
15	9716.8	9867.8	10021.5	10071.8	10008.2	9878.4	9730.1	9677.1	9690.3	9806.9	9928.8	9957.9
20	9372.5	9457.2	9602.9	9759.2	9857.2	9772.5	9605.6	9486.4	9539.3	9441.3	9809.5	9820.1
25	9433.4	9372.5	9343.3	9409.5	9388.3	9449.3	9335.4	9377.7	9356.6	9422.8	9621.5	9740.7
30	8591.0	8588.3	8471.8	8328.7	8257.2	8307.5	8233.3	8061.2	8161.8	8040.0	7931.4	7857.2
35	7107.5	6967.1	6943.2	6802.8	6710.1	6670.4	6707.5	6686.3	6699.5	6741.9	6813.4	6858.5
40	6241.2	6190.9	6119.4	6029.3	5997.5	5994.9	6005.5	6024.0	6024.0	6063.7	6153.8	6235.9
45	5486.2	5412.1	5319.4	5247.8	5229.3	5237.2	5237.2	5245.2	5263.7	5277.0	5335.3	5446.5
50	4524.6	4463.7	4402.8	4349.8	4307.4	4283.6	4273.0	4265.0	4288.9	4331.2	4394.8	4484.9
55	3147.1	3118.0	2993.5	2818.6	2606.7	2355.0	2092.8	1827.9	1597.4	1382.8	1213.3	1144.4
60	56.9	54.2	51.5	48.1	43.9	39.5	34.6	29.4	24.5	20.5	17.1	15.8
65	10.6	10.8	10.9	11.0	11.0	11.0	11.0	10.9	10.8	10.6	10.5	10.4
70	7.0	7.2	7.3	7.4	7.4	7.4	7.4	7.4	7.3	7.3	7.2	7.1
75	4.8	4.9	5.0	5.1	5.1	5.1	5.1	5.0	5.0	5.0	4.9	4.9
80	2.8	2.9	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.9	2.9	2.9
85	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.3	1.3
90	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
95	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
100	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
105	1.3	1.2	1.2	1.1	1.1	1.0	1.0	0.9	0.9	0.9	0.8	0.8
110	6.7	6.6	6.6	6.6	6.4	6.2	6.1	6.0	5.9	5.9	5.8	5.8
115	30.4	30.4	30.5	30.5	30.0	29.1	28.3	27.5	26.9	26.3	25.8	25.4
120	32.1	31.4	30.9	30.4	29.4	28.2	27.0	26.0	25.1	24.3	23.7	23.2
125	25.1	24.4	23.8	23.2	22.3	21.3	20.3	19.3	18.5	17.8	17.2	16.7
130	23.3	22.6	22.0	21.3	20.5	19.7	18.9	18.3	17.7	17.3	17.0	16.7
135	26.4	26.1	25.9	25.6	25.4	25.2	25.0	24.8	24.6	24.5	24.4	24.3
140	39.6	39.4	39.4	39.2	39.1	39.0	38.9	38.8	38.6	38.5	38.4	38.3
145	60.7	60.6	60.6	60.5	60.4	60.4	60.3	60.2	60.2	60.1	59.9	59.8
150	93.3	93.2	93.1	93.0	92.9	92.8	92.7	92.7	92.7	92.7	92.6	92.4
155	163.8	163.7	163.6	163.5	163.5	163.6	163.4	163.4	163.5	163.4	163.2	163.2
160	248.5	248.2	248.2	248.2	248.5	249.3	249.8	250.3	250.9	251.1	251.1	251.1
165	287.2	287.2	287.7	287.7	288.5	289.5	290.9	292.2	293.3	294.3	294.8	295.9
170	286.6	286.4	286.9	287.4	288.2	289.0	290.3	291.7	293.0	294.3	295.6	296.7
175	261.2	260.9	260.7	260.7	260.9	262.5	263.8	264.4	265.4	266.5	267.3	268.4
180	252.7	253.0	253.3	253.5	254.0	254.3	255.1	256.2	257.2	257.5	258.0	258.0

Continued on following page

This page is to be read in conjunction with the first page of this report

Table 6 Continued...

Gamma	240	245	250	255	260	265	270	275	280	285	290	295
0	10863.9	10863.9	10861.2	10861.2	10866.5	10855.9	10861.2	10861.2	10861.2	10858.6	10871.8	10871.8
5	10704.9	10702.3	10691.7	10686.4	10691.7	10686.4	10686.4	10678.5	10665.2	10652.0	10638.7	10620.2
10	10392.4	10384.4	10392.4	10355.3	10320.8	10273.1	10230.8	10196.3	10183.1	10138.0	10101.0	10082.4
15	10032.1	10087.7	10146.0	10164.5	10185.7	10156.6	10140.7	10095.7	10082.4	9973.8	9891.7	9746.0
20	9907.6	10037.4	10085.1	10103.6	10138.0	10106.3	9984.4	9920.8	9828.1	9756.6	9645.3	9621.5
25	9695.6	9708.9	9645.3	9632.1	9441.3	9361.9	9202.9	9218.8	9261.2	9353.9	9409.5	9375.1
30	7764.5	7971.1	8018.8	8177.7	8312.8	8326.1	8561.8	8469.1	8620.1	8617.5	8657.2	8694.3
35	6900.9	6922.1	6919.4	6914.1	6930.0	6964.4	6956.5	6919.4	6879.7	6845.2	6786.9	6813.4
40	6299.5	6302.2	6278.3	6249.2	6267.7	6312.8	6323.4	6270.4	6204.1	6106.1	6055.8	6037.3
45	5541.9	5520.7	5459.8	5454.5	5454.5	5512.7	5557.8	5483.6	5369.7	5300.8	5269.0	5269.0
50	4553.8	4492.8	4410.7	4402.8	4402.8	4458.4	4545.8	4519.3	4434.6	4376.3	4328.6	4310.1
55	1184.1	1226.5	1361.6	1563.0	1788.1	2047.7	2341.8	2556.4	2699.4	2845.1	2959.0	3038.5
60	15.7	16.4	18.5	21.1	23.6	26.8	30.9	35.6	40.8	47.3	54.3	60.7
65	10.3	10.2	10.1	10.0	9.9	9.8	9.6	9.5	9.3	9.1	8.9	8.7
70	7.1	7.0	6.9	6.8	6.7	6.6	6.4	6.3	6.2	6.0	5.9	5.7
75	4.8	4.8	4.7	4.7	4.6	4.5	4.4	4.3	4.2	4.1	4.0	3.8
80	2.8	2.8	2.8	2.7	2.7	2.6	2.6	2.5	2.4	2.4	2.3	2.2
85	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.0	1.0	1.0	0.9
90	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
95	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
100	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6
105	0.8	0.8	0.8	0.8	0.9	0.9	1.0	1.1	1.1	1.2	1.2	1.3
110	5.8	5.9	6.0	6.0	5.9	6.0	6.0	6.1	6.3	6.4	6.4	6.4
115	25.2	25.3	25.6	25.7	25.7	25.7	26.0	26.6	27.4	28.3	28.6	28.5
120	22.9	22.8	23.0	23.1	23.1	23.2	23.6	24.4	25.5	26.7	27.6	28.2
125	16.4	16.2	16.3	16.3	16.4	16.7	17.1	17.9	18.9	19.9	20.9	21.6
130	16.5	16.4	16.4	16.4	16.4	16.5	16.7	17.1	17.4	17.4	17.5	17.8
135	24.2	24.2	24.2	24.2	24.2	24.2	24.3	24.3	24.4	24.6	24.8	25.0
140	38.2	38.2	38.2	38.1	38.1	38.1	38.1	38.1	38.1	38.1	38.3	38.4
145	59.7	59.6	59.5	59.5	59.5	59.4	59.4	59.4	59.5	59.6	59.7	59.7
150	92.2	92.1	92.1	92.0	91.9	92.0	91.9	91.8	91.9	91.9	92.0	92.2
155	163.2	163.2	163.1	163.0	162.9	163.1	163.3	163.3	163.1	163.0	163.2	163.3
160	251.1	251.1	251.1	251.1	251.1	250.9	250.3	250.6	250.9	250.9	250.6	250.9
165	296.7	297.0	297.2	297.5	297.8	298.0	298.0	298.0	298.6	298.3	297.8	297.8
170	298.0	298.8	300.1	301.7	303.1	303.1	302.3	302.5	303.1	303.1	302.0	300.9
175	269.4	270.2	270.2	270.2	271.3	271.5	271.3	270.5	269.7	270.7	270.5	269.9
180	258.0	258.6	258.6	258.8	258.8	258.6	257.5	257.0	257.8	258.8	259.1	258.6

Continued on following page

This page is to be read in conjunction with the first page of this report

Table 6 Continued...

Gamma	300	305	310	315	320	325	330	335	340	345	350	355
0	10874.5	10877.1	10874.5	10869.2	10871.8	10866.5	10863.9	10866.5	10866.5	10861.2	10858.6	10855.9
5	10609.6	10591.0	10596.3	10609.6	10625.5	10649.3	10670.5	10686.4	10704.9	10720.8	10742.0	10757.9
10	10085.1	10079.8	10095.7	10132.7	10159.2	10143.3	10114.2	10101.0	10108.9	10127.4	10156.6	10201.6
15	9690.3	9653.3	9637.4	9510.2	9459.9	9454.6	9497.0	9560.5	9679.7	9862.5	10024.1	10106.3
20	9626.8	9738.0	9889.0	9928.8	9833.4	9666.5	9608.2	9605.6	9735.4	9926.1	10236.1	10516.9
25	9444.0	9465.2	9534.0	9518.1	9539.3	9663.8	9658.6	9822.8	9645.3	9629.4	9571.1	9536.7
30	8718.1	8696.9	8742.0	8771.1	8763.2	8853.2	8824.1	8855.9	8847.9	8890.3	8651.9	8598.9
35	6784.3	6908.8	6996.2	7205.5	7369.7	7290.3	7263.8	7176.4	7173.7	7062.5	7033.3	7012.1
40	6034.6	6029.3	6037.3	6055.8	6106.1	6214.7	6304.8	6365.7	6386.9	6341.9	6315.4	6360.4
45	5274.3	5279.6	5295.5	5314.1	5361.7	5449.2	5581.6	5645.2	5610.8	5568.4	5549.8	5586.9
50	4310.1	4326.0	4352.4	4400.1	4439.9	4482.2	4551.1	4556.4	4458.4	4402.8	4408.1	4431.9
55	3094.1	3104.7	3091.5	3075.6	3067.6	3051.7	2945.8	2678.2	2304.7	1912.6	1531.2	1141.8
60	64.8	66.9	66.5	64.0	59.9	54.3	46.9	38.5	30.8	23.1	18.3	15.6
65	8.6	8.4	8.3	8.2	8.1	8.1	8.0	8.0	7.9	7.9	7.8	7.8
70	5.6	5.5	5.3	5.2	5.1	5.1	5.0	5.0	5.1	5.1	5.1	5.2
75	3.7	3.6	3.5	3.4	3.3	3.2	3.2	3.2	3.2	3.2	3.3	3.3
80	2.1	2.0	2.0	1.9	1.8	1.8	1.7	1.8	1.8	1.8	1.9	1.9
85	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6
90	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3
95	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
100	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
105	1.4	1.5	1.5	1.6	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8
110	6.4	6.5	6.6	6.7	6.8	6.9	7.0	7.2	7.3	7.3	7.2	7.2
115	28.5	28.5	28.6	28.8	29.0	29.3	29.6	30.1	30.7	31.0	30.9	30.7
120	28.7	29.5	30.2	31.0	31.8	32.6	33.3	34.0	34.7	35.0	34.9	34.6
125	22.3	23.1	23.9	24.5	24.9	25.5	26.2	27.2	28.2	28.7	29.1	29.3
130	18.4	19.2	20.4	21.7	23.0	24.1	25.2	26.2	27.0	27.4	27.3	27.2
135	25.3	25.6	26.0	26.5	27.0	27.6	28.2	28.7	29.2	29.3	29.3	29.2
140	38.4	38.5	38.6	38.7	38.9	39.0	39.1	39.2	39.2	39.3	39.3	39.3
145	59.7	59.7	59.8	59.8	59.8	59.9	59.9	60.0	60.1	60.1	60.2	60.2
150	92.2	92.2	92.2	92.3	92.4	92.5	92.6	92.7	92.7	92.9	93.0	93.1
155	163.4	163.5	163.7	163.9	164.2	164.4	164.6	165.0	165.3	165.4	165.9	166.3
160	251.1	251.1	251.7	251.7	251.7	251.9	251.7	251.9	251.9	251.7	251.9	252.2
165	297.8	297.0	296.4	295.6	295.1	294.6	293.8	292.5	291.4	290.6	290.1	289.8
170	300.1	299.1	298.0	296.7	295.6	294.0	292.5	291.1	289.8	288.7	287.7	287.4
175	269.7	269.4	269.4	268.9	268.4	267.0	266.2	265.4	263.6	262.0	261.7	261.5
180	257.5	256.4	256.2	255.4	254.8	254.3	253.3	252.7	252.2	251.7	251.7	251.9

Continued on following page

This page is to be read in conjunction with the first page of this report

PRODUCT DIAGRAM & IDENTIFICATION OF PHOTOMETRIC CENTRE

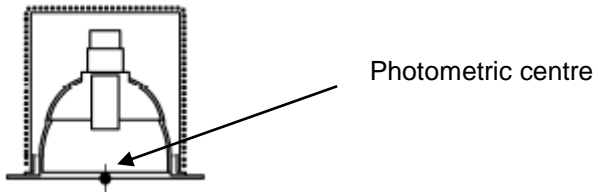


Figure 2. *Product photometric centre*

ILLUSTRATION



Figure 3. *Product image*

End