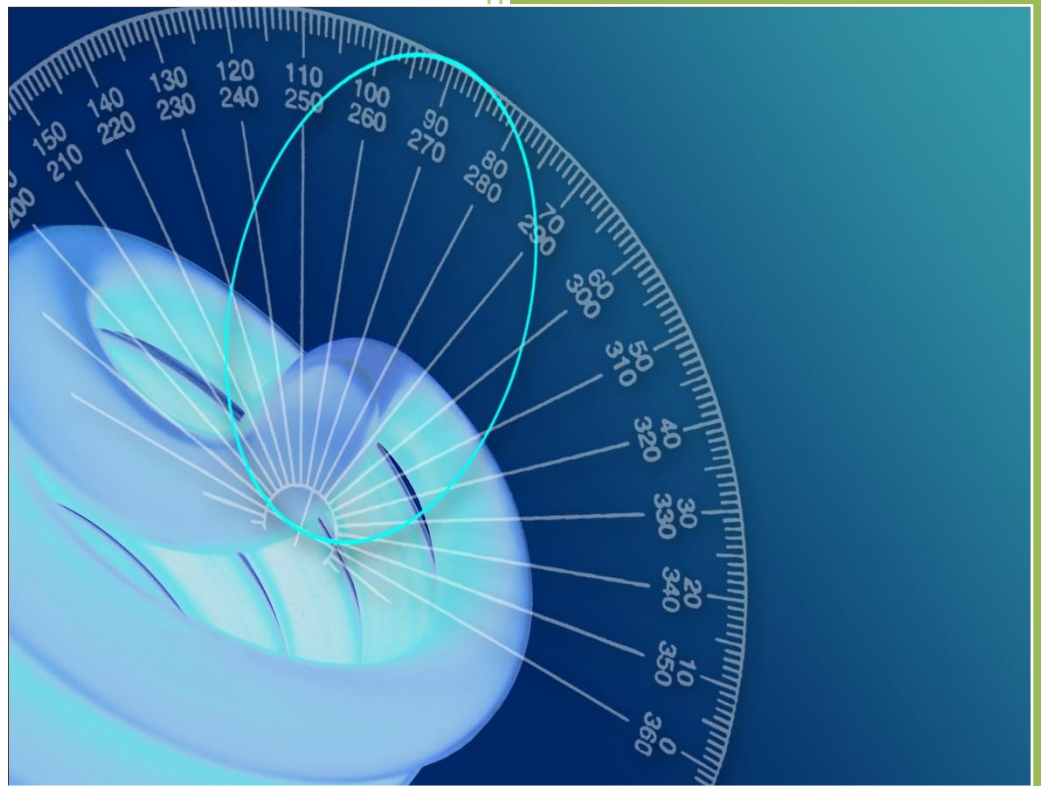


Photometric Test Report



Photometric and Optical Testing
Services
Cotswold Business Centre
42 A P Ellis Road
Rissington Business Park
Upper Rissington
Gloucestershire
GL54 2QB
UK
Tel: 01451 812 222
Fax: 01451 812 201

POTS Photometric Test Report

Report Number: POTS/12011_5	Report Date: 03-02-2012	Prepared By: G John
Test Laboratory: Photometric and Optical Testing Services, Cotswold Business Centre, 42 A P Ellis Road, Rissington Business Park, Upper Rissington, Gloucestershire, GL54 2QB		
Company Registration Number: Registered in England & Wales No. OC352911		
Registered Address: Thistle Down Barn, Holcot Lane, Sywell, Northampton, NN6 0BG		

Client Details

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

Details of Product Tested

Manufacturer: TLC	Source Type: Ceiling panel light
Model: LTMOD45CW WHITE	Serial Number:
Description: LED PANEL	
Lamp Type: LED	
Power Supply Used: Interruptible AC power supply	
Input voltage(V): 241.4	Input Current (mA): 223
Input power(W): 45.15	Power factor: 0.879
Length of luminaire (mm):600	Width of Luminaire (mm): 600
Height of luminaire (mm): 40	

Results	
Flux (lumens): 3214.5 lumens	
CIE 1931 Chromaticity Cx: 0.4424	CIE 1931 Chromaticity Cy: 0.4135
CRI (%): 81.2	CCT (K): 2986

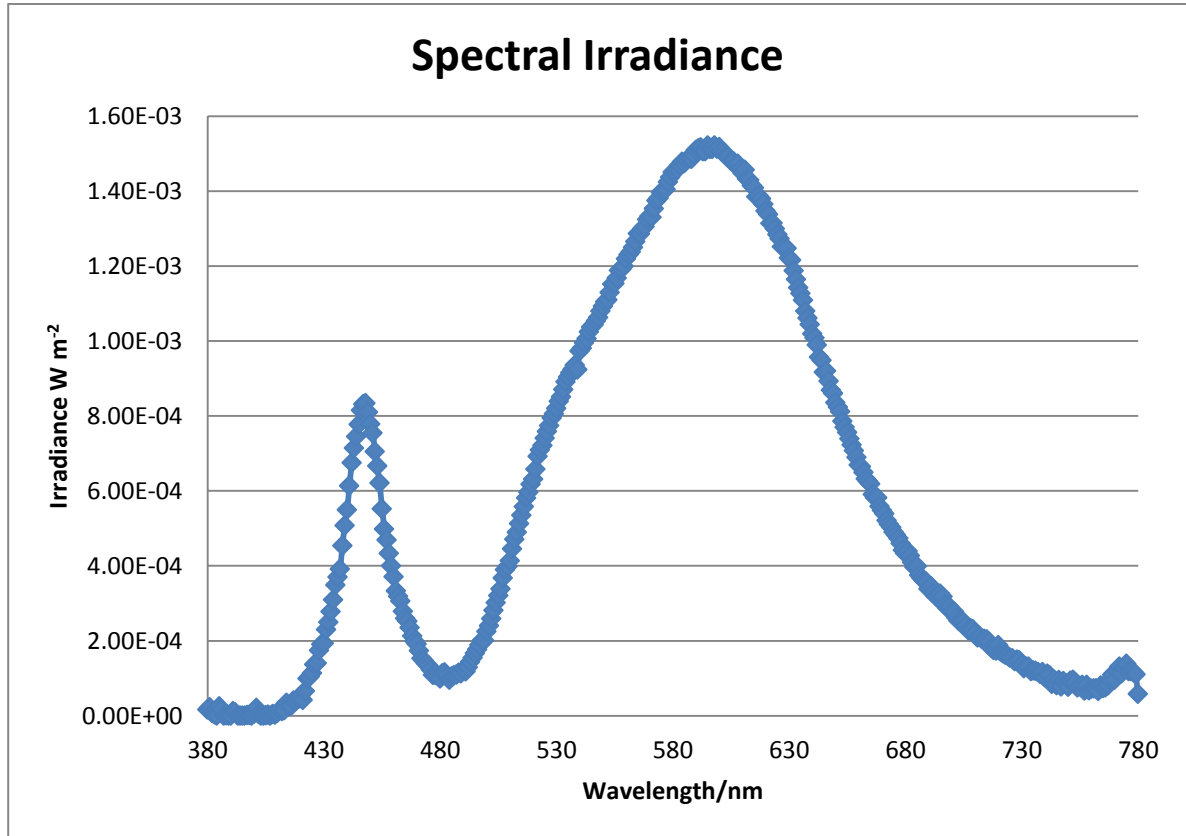


Figure 1: Spectral Irradiance

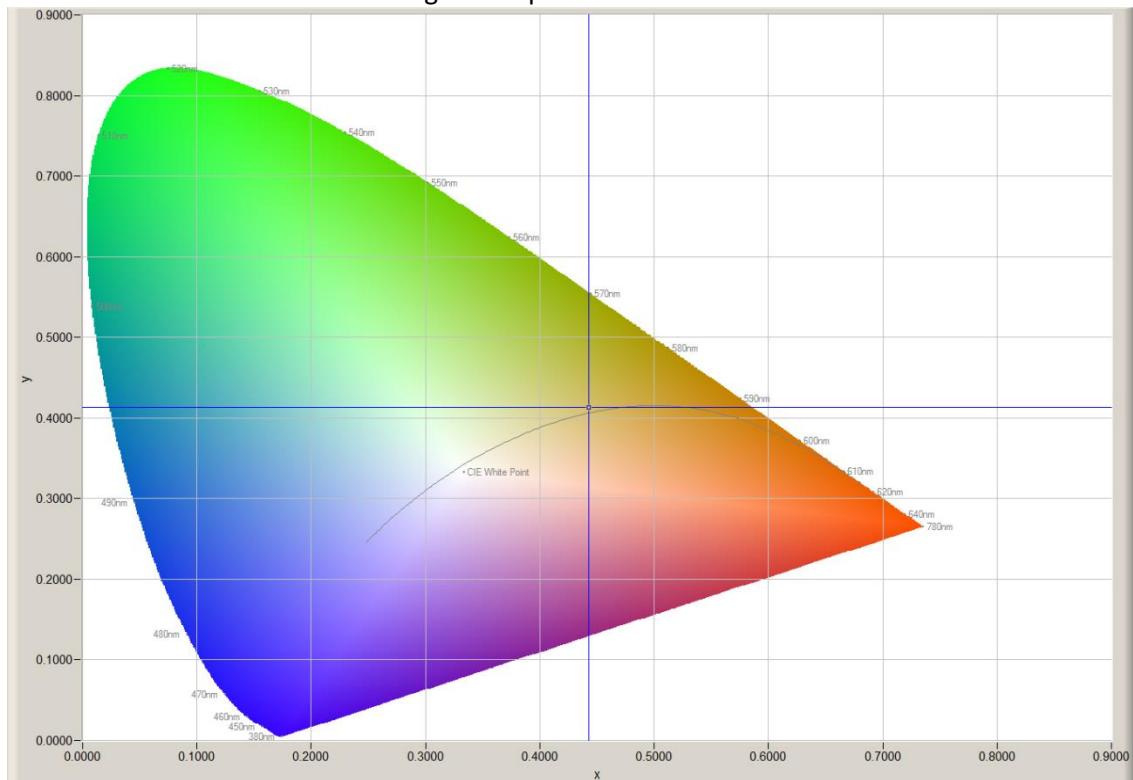


Figure 2: CIE 1931 2° Chromaticity Diagram

Goniophotometer Test		
Date of Test: 01-02-2012	Ambient Temperature: 25°C	
Measurement Filename: LTMOD45W WHITE		
Instrument Used: Radiant Imaging NFMS0800 Goniometer with ProMetric PM-1200N-1 Imaging Photometer		
Photometer Working Distance: 4m	Measurement Geometry: Near-Field	
Comments:		
Reference Photometer Used: Specbos1201	Reference Photometer Serial Number: 2911670	
Traceable: to NPL standards, UKAS Accredited	Calibration Certificate Number: 121104	
Calibration Certificate Date: 25 th October 2011	Sample Stabilisation Time (minutes):60	
Reference Photometer Calibration Uncertainty: $\pm 2.4\%$ ($k=2$, 20-200 lux, CIE illuminant A source)		
Scan Set Up		
Direction	Range	Increment
Inclination Zone 1	0-90°	3°
Azimuth	0-360°	10°
Results (after stabilisation)		
Integrated Luminous Flux (lumens): 3214.5	Peak Intensity (1° Spot, candelas): 1209.2	
Beam Angle (50% of max intensity C0-180, degrees): 107.8		
Photometric Filename (IES LM-63-2002): LTMOD45CW WHITE		
IES File – Absolute or Relative Format? Absolute		
Photometric Filename (EULUMDAT): LTMOD45CW WHITE		
EULUMDAT File – Absolute or Relative Format? Absolute		

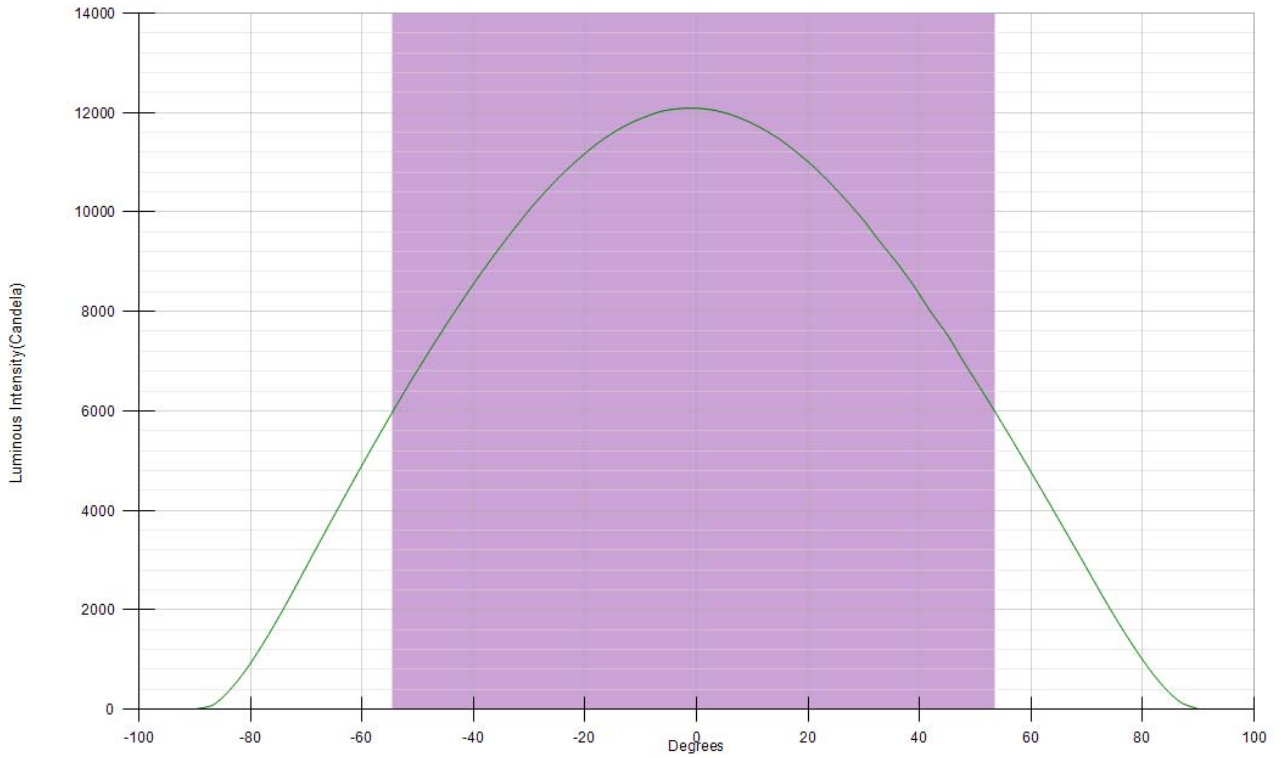


Figure 3: Far-Field Luminous Intensity (C0-180, Cartesian Coordinates)

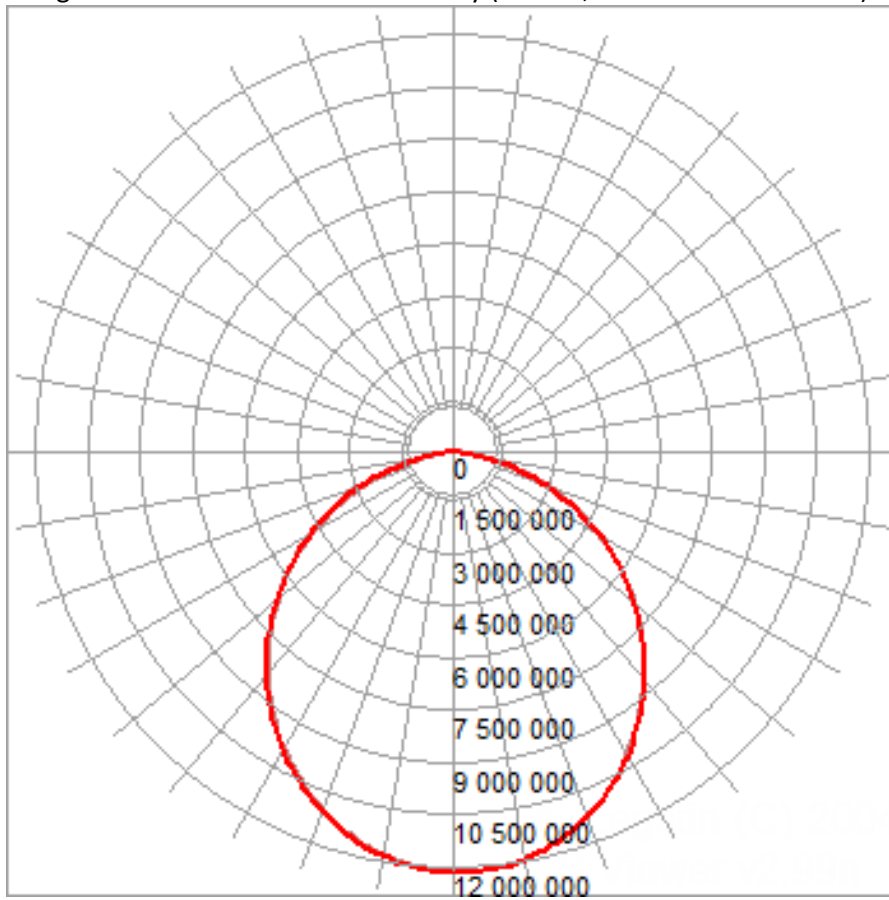


Figure 4: Far-Field Luminous Intensity (C0-180, C90-270, Polar Coordinates)

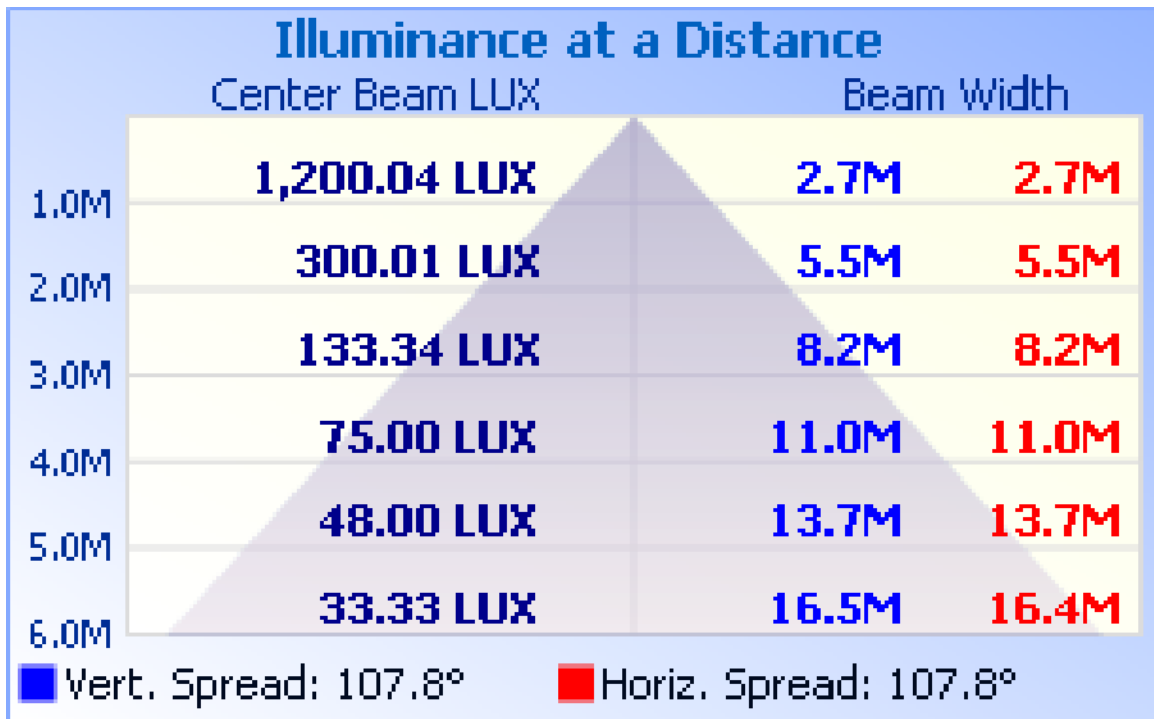


Figure 5. Illuminance cone diagram.

	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	
0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0	1200.0
3	1194.1	1192.8	1187.1	1185.2	1182.5	1188.2	1195.1	1196.2	1192.0	1189.7	1192.0	1201.0	1208.8	1212.2	1207.6	1201.8	1197.8	1194.0	1189.2	1181.9	1176.8	1171.8	1179.7	1187.4	1190.5	1193.8	1198.2	1202.7	1203.1	1199.4	1192.2	1184.1	1178.5	1177.1	1183.7	1190.6	
6	1174.2	1171.7	1184.5	1191.4	1189.0	1185.6	1189.1	1191.6	1191.4	1185.0	1170.5	1172.6	1184.9	1186.4	1193.3	1212.1	1208.5	1181.2	1185.8	1199.3	1187.7	1184.4	1189.6	1179.6	1182.8	1189.3	1191.2	1196.3	1190.1	1187.0	1172.2	1171.1	1193.7	1200.9	1183.7	1179.1	
9	1173.1	1167.7	1175.4	1149.8	1147.2	1179.6	1205.7	1160.4	1152.4	1191.0	1166.8	1180.9	1171.2	1158.9	1169.2	1182.1	1190.8	1169.9	1180.2	1178.1	1178.8	1182.2	1180.6	1196.4	1170.5	1174.5	1179.9	1179.0	1178.7	1162.3	1174.1	1193.6	1166.9	1177.9	1183.0		
1	1170.6	1148.4	1155.6	1165.6	1154.8	1158.1	1157.0	1149.4	1159.4	1152.5	1141.0	1162.6	1166.6	1144.2	1158.5	1138.4	1154.4	1155.4	1147.1	1147.1	1161.8	1138.4	1154.5	1171.0	1150.6	1138.2	1134.1	1147.1	1153.5	1144.2	1156.6	1167.6	1183.6	1162.8	1152.6	1163.4	
5	1147.6	1137.5	1144.3	1144.4	1141.9	1153.9	1129.8	1145.3	1134.7	1120.4	1125.4	1143.6	1128.1	1138.9	1141.6	1134.2	1125.8	1137.6	1135.6	1130.7	1146.4	1161.1	1141.5	1146.0	1136.0	1146.0	1126.7	1171.1	1137.6	1147.5	1146.5	1138.5	1115.3	1139.3	1140.4	1145.4	
1	1119.8	1115.8	1132.2	1128.2	1100.4	1111.0	1112.0	1129.1	1135.8	1097.1	1112.1	1130.5	1106.5	1119.4	1108.4	1118.1	1099.2	1128.2	1114.1	1137.1	1120.7	1099.7	1109.8	1107.7	1105.3	1123.3	1087.1	1112.0	1120.1	1117.5	1130.3	1109.1	1101.4	1135.4	1114.8	1135.8	
2	1092.8	1076.3	1081.5	1082.2	1103.1	1091.1	1064.9	1081.1	1080.1	1108.1	1082.3	1086.7	1085.6	1055.7	1086.9	1077.3	1072.6	1080.2	1070.6	1087.2	1097.2	1109.1	1080.8	1076.5	1087.8	1108.1	1085.3	1098.9	1082.1	1075.7	1083.4	1095.9	1083.2	1102.7	1070.8	1083.8	
2	1077.0	1047.3	1046.6	1045.3	1049.4	1074.7	1047.3	1077.5	1031.2	1064.6	1063.1	1078.1	1045.2	1070.3	1054.2	1046.2	1057.6	1063.7	1054.1	1057.5	1046.6	1047.6	1075.6	1059.1	1054.7	1059.8	1037.8	1061.3	1051.1	1068.1	1058.2	1065.7	1063.1	1064.1	1063.6	1056.9	
7	1019.7	1025.5	1019.5	1006.8	1018.9	1033.0	1015.7	1010.2	1017.2	997.0	1017.2	1026.9	1038.5	1024.6	1038.8	1044.5	1044.4	1006.8	1021.6	1043.7	1011.5	1051.1	1025.7	1017.4	1022.0	1023.9	1003.3	1009.7	1019.0	1026.1	1011.2	1022.2	1025.4	1057.1	1011.2	1045.6	
3	993.8	1002.9	966.0	995.1	993.9	983.7	972.1	984.2	976.2	1002.8	970.7	980.0	983.2	980.0	966.4	979.0	975.1	989.9	980.0	1010.3	983.8	973.0	1005.8	980.9	979.0	1003.8	984.6	977.8	976.8	978.5	993.4	963.2	980.4	990.9	997.9	977.5	
3	955.8	952.2	938.7	931.1	944.2	950.7	930.7	930.4	954.4	937.7	952.3	939.4	936.4	952.9	945.9	936.5	955.5	958.5	935.5	933.5	956.7	940.5	955.8	940.8	937.0	940.2	942.6	957.4	951.8	945.2	950.3	958.2	947.6	944.3	943.5		
6	913.9	899.3	913.2	902.7	916.9	892.2	906.1	905.0	879.6	891.1	902.9	900.5	893.8	898.2	892.3	891.3	880.9	874.7	881.3	891.0	899.9	893.8	889.8	899.8	919.8	898.3	906.5	913.1	899.0	898.1	890.1	911.3	893.8	911.8	902.5	904.5	
3	864.3	872.8	853.8	854.1	854.4	871.3	845.5	858.9	858.1	889.6	841.6	838.6	880.4	851.4	850.0	843.0	861.4	843.4	857.3	858.2	846.2	844.6	872.4	856.3	847.6	858.6	842.7	860.2	842.2	846.5	861.4	860.2	861.2	860.5	863.9	857.7	
4	808.1	808.9	809.9	820.2	824.1	815.4	802.5	788.3	807.3	826.8	799.8	802.8	810.6	784.8	808.9	796.6	786.8	806.9	797.4	802.4	816.6	812.0	819.6	815.1	800.6	808.2	812.0	790.0	813.0	812.0	809.4	807.4	808.4	817.4	816.8	807.3	
4	782.0	773.9	771.9	764.9	758.9	760.2	762.5	764.2	761.0	750.6	778.7	745.5	748.5	766.6	753.6	728.0	752.0	760.6	757.1	772.7	773.4	776.0	754.3	763.2	784.0	760.0	752.0	781.4	768.8	755.1	771.8	779.7	759.7	762.7	765.5	763.9	
8	710.6	713.5	720.5	726.5	714.1	694.9	702.1	689.0	711.1	713.3	707.8	705.6	690.3	699.6	703.6	713.6	699.1	697.6	713.6	699.2	721.6	714.1	730.7	700.6	705.7	702.6	713.2	704.9	721.0	713.3	724.5	708.6	724.7	720.2	720.2		
5	663.9	652.0	664.7	660.7	653.7	671.4	682.5	639.8	669.7	662.6	663.3	648.3	635.1	642.1	644.4	633.1	651.5	652.5	651.0	659.0	674.9	656.9	662.8	662.4	656.3	666.3	649.5	648.5	665.3	646.4	644.7	654.4	657.7	665.4	676.9		
5	610.9	608.7	617.4	587.4	606.5	603.5	602.7	596.7	611.1	596.8	602.1	608.8	589.4	600.4	595.5	589.5	602.6	605.6	588.7	622.8	607.8	598.4	606.7	610.7	590.3	616.3	601.6	615.6	604.6	609.6	606.9	627.2	607.7	598.4	615.3	601.0	
7	562.3	561.7	555.1	554.0	553.0	537.6	554.9	555.7	541.9	549.1	536.3	535.2	541.5	547.8	548.3	552.2	543.8	550.8	541.8	565.1	563.5	570.7	546.6	549.1	543.4	550.1	563.0	535.0	545.5	561.7	551.5	554.2	554.0	553.9	558.5		
6	502.2	519.5	511.8	478.6	497.7	478.7	486.9	491.9	494.4	510.5	495.9	493.5	490.5	483.1	500.4	490.2	487.4	488.5	483.0	481.5	503.5	495.4	504.9	493.9	504.1	505.7	481.3	497.3	497.3	505.0	482.3	483.2	489.2	502.9	493.0	512.0	
6	447.0	437.6	435.5	448.1	412.6	433.1	443.1	437.3	428.3	430.0	426.7	435.9	418.1	425.3	427.5	434.8	447.8	425.3	427.2	427.2	443.6	428.8	448.1	447.7	431.6	437.6	442.3	437.3	441.3	448.3	428.9	434.5	445.5	449.4	465.3	460.3	
6	381.3	389.5	374.5	376.5	363.1	377.5	378.2	381.9	383.5	384.6	382.0	371.2	385.7	371.0	372.0	367.3	379.4	374.9	378.9	383.8	396.3	379.6	399.0	378.5	374.5	391.0	382.9	381.4	376.9	397.1	391.0	381.5	391.9	379.5	382.7		
6	330.1	315.6	324.9	302.9	322.2	320.8	325.6	319.1	313.9	320.0	318.1	320.1	311.2	308.4	306.1	305.1	316.1	321.8	316.8	315.2	312.3	320.9	318.6	324.3	318.0	318.0	329.4	307.5	309.8	316.4	329.8	318.6	319.6	322.7	332.8	320.8	
7	276.8	272.5	264.6	270.2	268.8	255.2	263.5	260.7	263.3	258.7	262.1	259.2	251.8	265.9	268.3	247.7	255.3	251.1	263.1	262.2	260.6	258.0	256.6	267.7	254.7	271.2	269.4	252.4	262.7	254.2	263.9	258.8	269.6	256.6	254.6	265.6	
7	202.3	202.5	205.1	201.7	199.1	205.5	181.0	192.7	203.6	189.2	195.8	202.5	197.5	198.9	209.0	191.8	200.4	191.4	200.8	190.5	210.2	205.1	199.5	209.8	195.2	200.2	201.2	204.8	193.0	202.7	201.7	210.8	216.7	202.7	206.9	200.6	
8	152.5	146.4	152.3	137.3	140.2	149.3	149.0	149.3	142.0	145.4	145.1	161.7	149.7	144.3	144.2	145.5	138.8	129.1	140.7	146.1	144.1	155.2	147.3	150.3	157.1	147.9	147.8	147.5	137.8	147.7	144.3	153.1	148.8	148.6	150.3		
1	92.6	87.2	89.5	93.3	94.7	93.9	99.6	95.5	90.5	96.2	95.0	102.0	99.8	95.2	97.1	100.4	94.3	90.1	88.8	94.5	100.2	102.1	98.7	98.9	92.5	93.1	92.4	92.2	98.1	93.7	94.6	95.1	99.2	99.7	104.3	91.6	
4	51.6	52.5	44.0	49.4	45.6	52.1	46.5	52.1	53.5	53.6	50.7	51.5	48.6	49.0	50.7	49.2	45.7	47.0	52.7	60.0	49.9	55.9	53.4	55.0	52.4	50.4	51.1	54.9	52.8	52.5	55.3	51.4	48.8	54.5	51.6	58.8	
8	22.3	20.7	16.9	18.8	20.3	17.0	20.3	19.9	20.7	20.8	17.9	17.7	19.8	20.2	19.0	17.5	17.9	20.3	18.7	23.4	21.9	19.6	23.9	21.9	22.8	19.5	19.3	20.3	20.0	19.2	20.9	19.2	21.6	18.4	23.4	25.3	
9	0.0	9.4	8.8	8.4	9.9	9.1	7.0	8.2	12.8	0.0	8.5	0.0	0.0	0.0	9.1	7.7	0.0	8.4	11.0	10.1	11.6	9.7	0.0	0.0	9.7	10.5	8.9	8.6	9.3	8.4	12.4	0.0	8.2	0.0	8.0	0.0	

Table 1. Luminous intensity values

Signature:

Print Name:

GH JOHN

Date:

03-02-2012

Partner / Director

Duly authorised to sign on behalf of:

Photometric and Optical Testing Services LLP