

Report of Test LL12852

Shenzhen Unilumin Technology Spigot Mount LED Road Luminaire. Product ID: UNISTWF-0008.

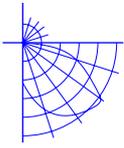
Diecast aluminium body, 600mm x 395mm x 115mm, with matte black finish. Two LED arrays, each having 28 LEDs (4 x 7 array with spacing of 20mm) mounted on specular aluminium reflector plate and protected by a plane glass lens forming a luminous opening of 105mm x 135mm. Each LED is fitted with an individual lens (details not available). Power supply: FSP Group Inc. Model No. FSP100-RAA 100-240V 50-60Hz. Photometered with lenses horizontal. Luminaire flux, 3437lm. Electrical parameters: 240.0V/50Hz/0.322A/65.7W.



Performance Summary

Light Output Ratio	N / A
Luminaire Power	65.7 W

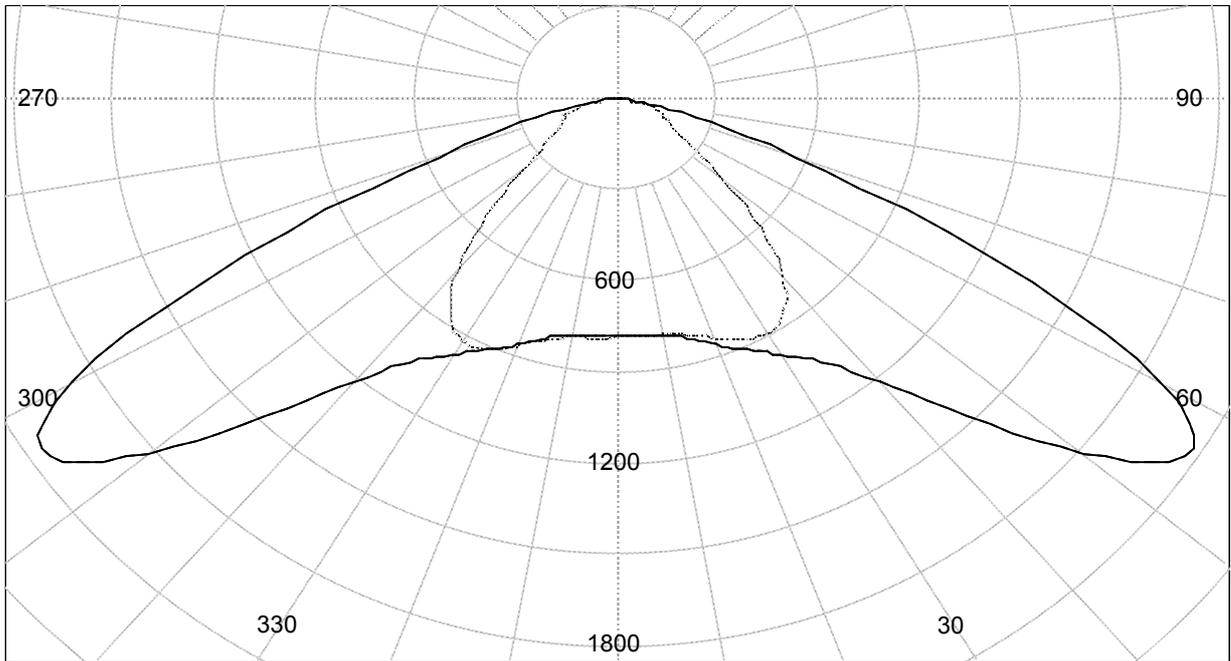
PREPARED FOR : A1 Insights Pty. Ltd., Beaumont, South Australia. 5066.



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Polar Light Distribution Curves



Kerbside / Downstream C0-Solid, Plane of maximum-Dashed, C90-Grey (cd) Streetside / Upstream

Street Lantern Summary: Report data as tested.

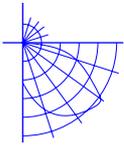
Percentage Outputs		
Upward	Downward	Total
Street Side N / A	N / A	N / A
House Side N / A	N / A	N / A

Luminaire Efficiency (Light Output Ratio) N / A

Certified by:

M. Brunt
Authorised Signatory

Date of test 22-Jun-2009
Date of report 26-Jun-2009



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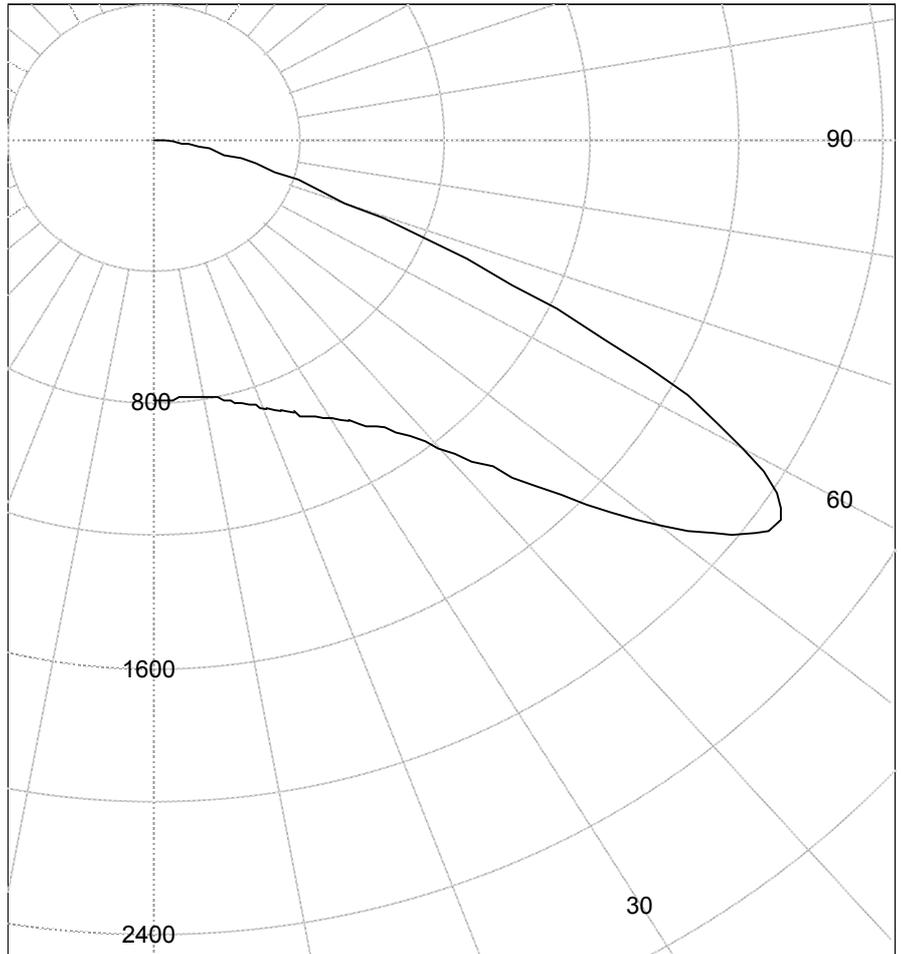
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Intensity
in principal plane

Principal Vertical Plane

Gamma (Degrees)	Intensity (cd)
0.0	787.6
10.0	794.1
20.0	862.8
30.0	974.2
35.0	1060.9
40.0	1218.2
45.0	1476.6
47.5	1646.8
50.0	1817.9
52.5	1964.0
55.0	2060.2
57.5	2035.7
60.0	1868.2
62.5	1588.8
65.0	1218.5
67.5	854.1
70.0	562.7
72.5	379.9
75.0	246.7
77.5	141.6
80.0	77.6
82.5	28.6
85.0	9.9
87.5	4.2
90.0	0.0
92.5	0.0
95.0	0.0
97.5	0.0
100.0	0.0
102.5	0.0
105.0	0.0
120.0	0.0
135.0	0.0
150.0	0.0
165.0	0.0
180.0	0.0

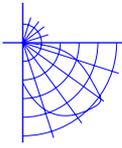


Legend: Plane of maximum intensity (cd)

	Maximum Intensity
House Side	2066.9 cd @ (0.0, 56.0)
Street Side	2066.9 cd @ (0.0, 56.0)

Note: The coordinate pairs in the above table are expressed in degrees and have the format (C plane, Gamma angle).

Data for the two symmetric halves of the luminaire has been averaged.



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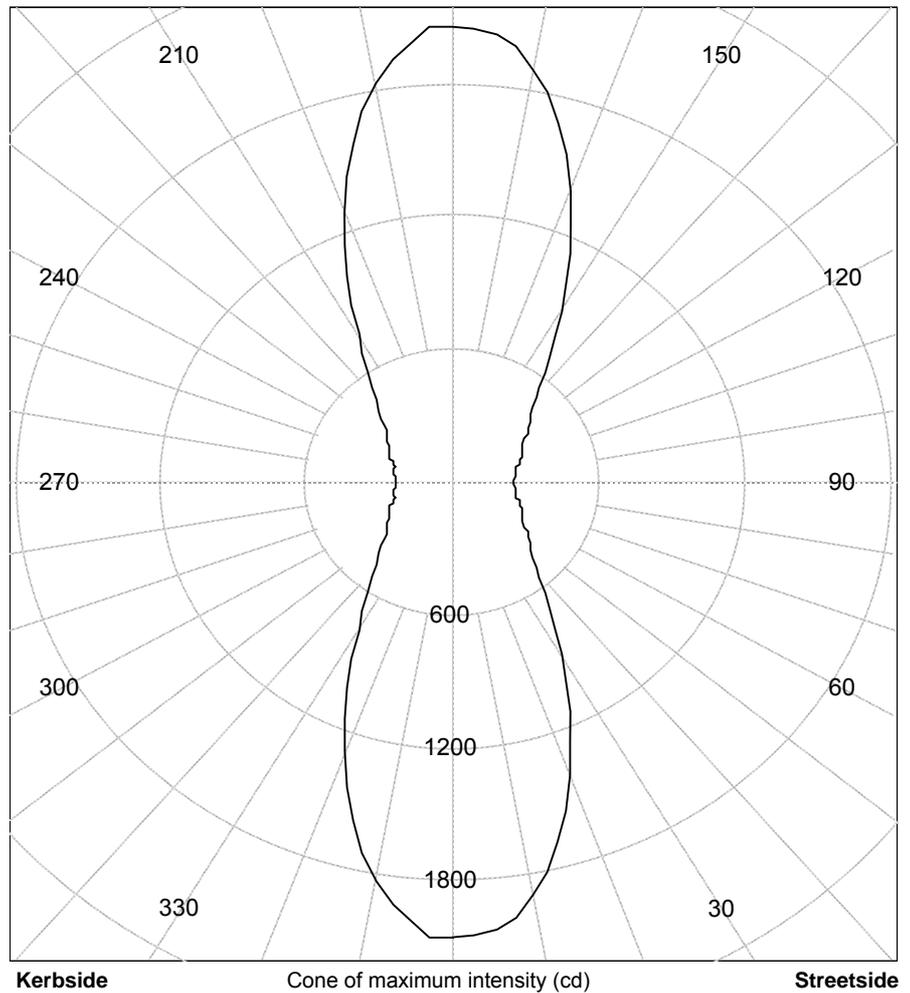
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Intensity
in principal cone

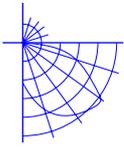
C-Plane (Degrees)	Intensity (cd)
90.0	251.6
75.0	273.7
60.0	336.7
50.0	413.4
45.0	472.2
40.0	562.6
35.0	692.9
30.0	890.5
25.0	1134.8
20.0	1408.5
15.0	1683.5
10.0	1893.0
5.0	2036.4
0.0	2066.9
355.0	1992.2
350.0	1830.5
345.0	1582.0
340.0	1289.1
335.0	1021.3
330.0	777.7
325.0	601.7
320.0	482.7
315.0	410.7
310.0	357.0
300.0	297.1
285.0	248.7
270.0	236.7

Principal Conical Surface



	Maximum Intensity
House Side	2066.9 cd @ (0.0, 56.0)
Street Side	2066.9 cd @ (0.0, 56.0)

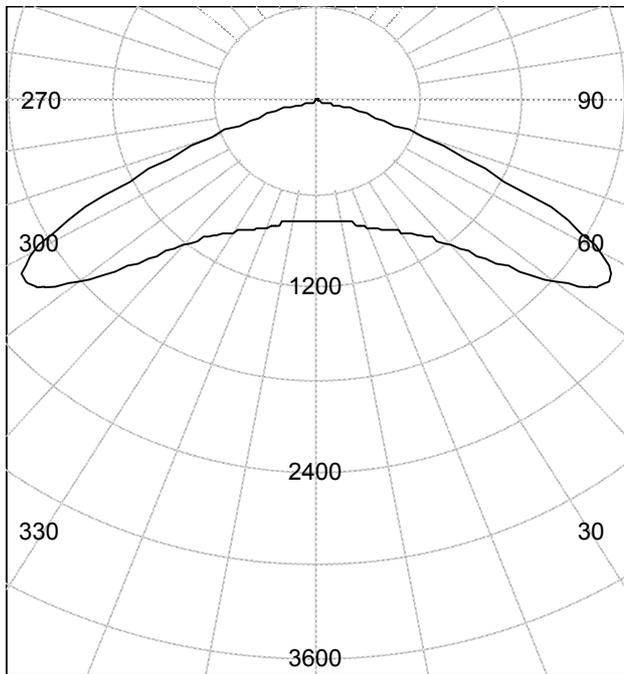
Note: The coordinate pairs in the above table are expressed in degrees and have the format (C plane, Gamma angle). Data for the two symmetric halves of the luminaire has been averaged.



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Polar curve through CIE C0 / C180

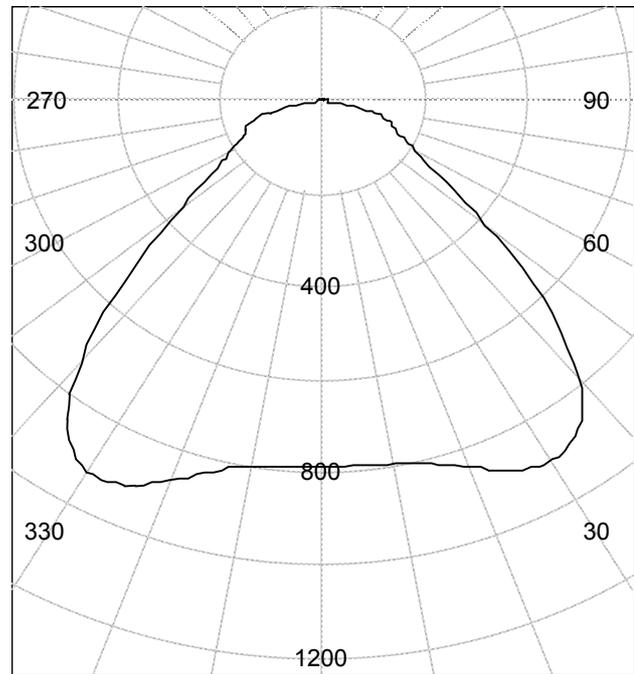


Downstream
(C180)

(cd)

Upstream
(C0)

Polar curve through CIE C90 / C270



Kerbside
(C270)

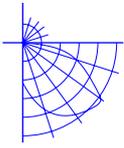
(cd)

Streetside
(C90)

Performance Parameters

I_{80}	=	77.6	cd
I_{88}	=	2.9	cd
I_{90}	=	0.0	cd
I_{80} / I_{88}	=	26.621	

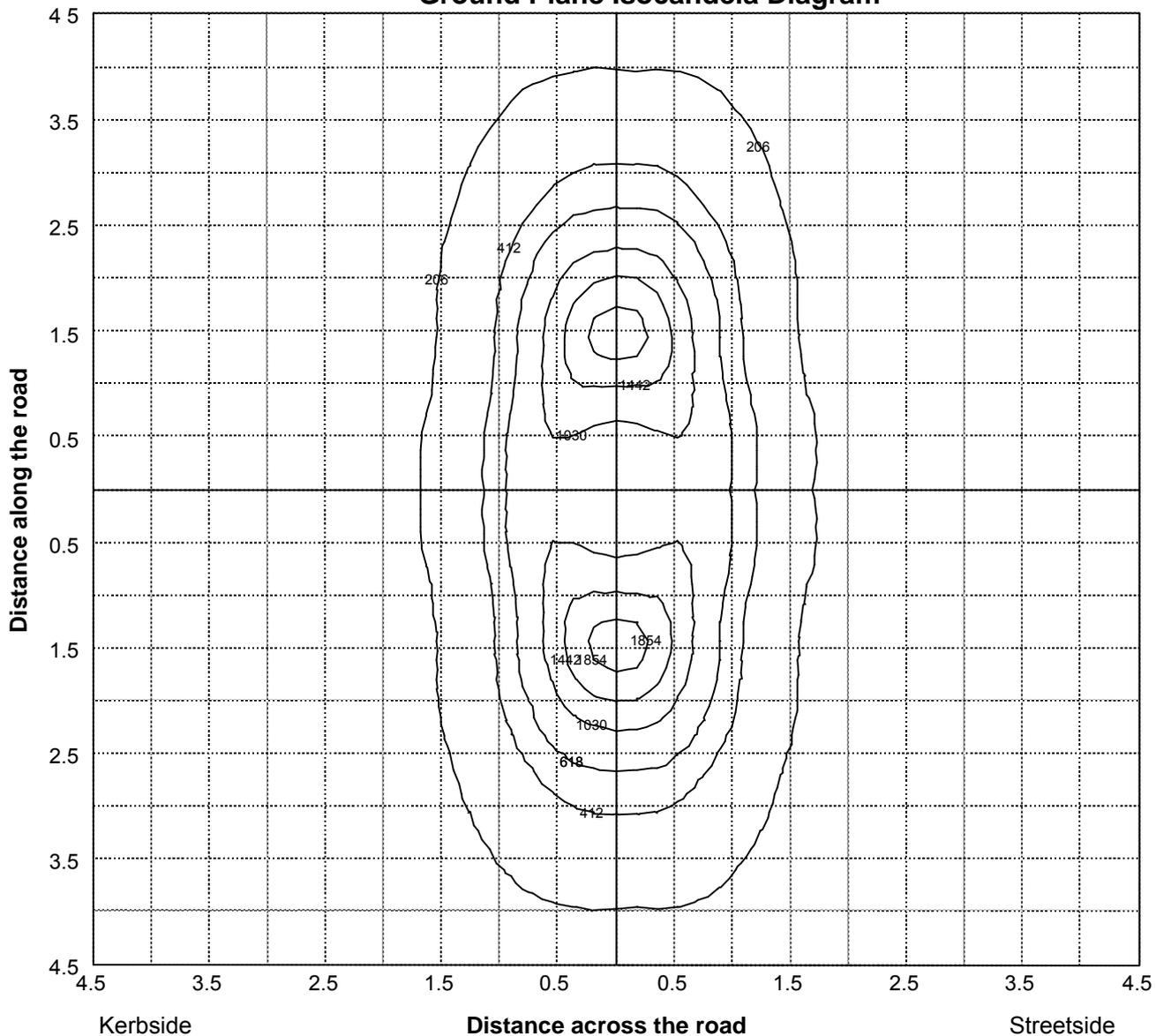
Note: The intensity values listed (I_{xx}) are all within the C0 half plane, the subscript refers to the gamma angle.



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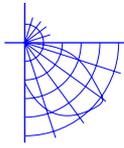
Ground Plane Isocandela Diagram



The isocandela contours are set to 10%, 20%, 30%, 50%, 70%, 90% of the maximum.

The isocandela contour units are expressed as candela.

Upstream and downstream sides have been averaged.

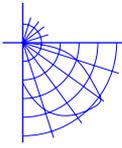


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KERB SIDE INTENSITY DATA (cd)

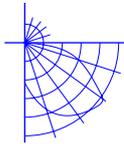
Gamma	C-Plane								
	C270	C285	C300	C310	C315	C320	C325	C330	C335
0.0	788	788	788	788	788	788	788	788	788
10.0	799	799	799	798	798	798	797	796	796
20.0	868	867	866	867	867	867	867	867	868
30.0	922	933	964	986	993	995	998	999	998
35.0	864	895	961	1016	1044	1064	1081	1090	1096
40.0	734	773	880	975	1029	1082	1136	1176	1210
45.0	540	578	702	829	906	996	1099	1199	1297
47.5	444	477	592	716	799	904	1029	1159	1303
50.0	358	386	484	592	675	784	918	1079	1268
52.5	299	321	393	482	552	653	788	969	1190
55.0	250	265	320	389	445	523	650	830	1073
57.5	220	229	264	318	363	425	533	697	928
60.0	198	203	220	261	296	346	430	564	760
62.5	182	186	191	217	246	288	354	453	607
65.0	171	174	171	186	205	239	288	358	467
67.5	166	171	158	168	177	198	235	283	355
70.0	164	169	151	156	159	170	190	222	267
72.5	143	153	143	147	148	151	158	172	201
75.0	124	129	124	131	130	132	134	138	150
77.5	96	100	103	97	99	102	100	101	101
80.0	63	64	71	70	67	62	60	63	63
82.5	34	35	42	36	34	31	27	26	26
85.0	12	12	15	11	9	8	7	7	8
87.5	5	4	3	3	2	3	3	3	3
90.0	0	0	0	0	0	0	0	0	0
92.5	0	0	0	0	0	0	0	0	0
95.0	0	0	0	0	0	0	0	0	0
97.5	0	0	0	0	0	0	0	0	0
100.0	0	0	0	0	0	0	0	0	0
102.5	0	0	0	0	0	0	0	0	0
105.0	0	0	0	0	0	0	0	0	0
120.0	0	0	0	0	0	0	0	0	0
135.0	0	0	0	0	0	0	0	0	0
150.0	0	0	0	0	0	0	0	0	0
165.0	0	0	0	0	0	0	0	0	0
180.0	0	0	0	0	0	0	0	0	0



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Gamma	KERB SIDE		INTENSITY DATA (cd)					ROAD SIDE		
	C340	C345	C350	C355	C-Plane			C10	C15	C20
					C0	C5				
0.0	788	788	788	788	788	788	788	788	788	788
10.0	797	795	795	795	794	794	794	794	794	794
20.0	868	866	865	864	863	863	862	861	860	860
30.0	996	989	984	978	974	973	972	975	976	976
35.0	1095	1089	1077	1068	1061	1061	1064	1070	1070	1070
40.0	1230	1233	1226	1222	1218	1213	1208	1215	1206	1206
45.0	1371	1428	1453	1470	1477	1464	1443	1424	1372	1372
47.5	1420	1524	1583	1624	1647	1627	1579	1534	1442	1442
50.0	1437	1601	1712	1785	1818	1798	1721	1634	1490	1490
52.5	1411	1637	1811	1917	1964	1940	1837	1695	1494	1494
55.0	1334	1611	1843	1994	2060	2031	1896	1703	1445	1445
57.5	1201	1511	1781	1949	2036	2001	1854	1630	1329	1329
60.0	1013	1323	1612	1780	1868	1846	1697	1452	1150	1150
62.5	808	1085	1358	1517	1589	1576	1443	1204	933	933
65.0	616	825	1037	1160	1218	1214	1116	923	710	710
67.5	457	602	750	823	854	861	798	669	520	520
70.0	328	412	497	544	563	565	534	452	364	364
72.5	240	291	343	370	380	382	360	310	258	258
75.0	177	205	231	245	247	251	243	213	185	185
77.5	114	130	138	143	142	145	148	137	120	120
80.0	67	74	77	77	78	78	82	76	68	68
82.5	27	27	29	29	29	29	31	27	27	27
85.0	8	9	9	10	10	10	10	9	8	8
87.5	3	4	4	4	4	5	4	4	3	3
90.0	0	0	0	0	0	0	0	0	0	0
92.5	0	0	0	0	0	0	0	0	0	0
95.0	0	0	0	0	0	0	0	0	0	0
97.5	0	0	0	0	0	0	0	0	0	0
100.0	0	0	0	0	0	0	0	0	0	0
102.5	0	0	0	0	0	0	0	0	0	0
105.0	0	0	0	0	0	0	0	0	0	0
120.0	0	0	0	0	0	0	0	0	0	0
135.0	0	0	0	0	0	0	0	0	0	0
150.0	0	0	0	0	0	0	0	0	0	0
165.0	0	0	0	0	0	0	0	0	0	0
180.0	0	0	0	0	0	0	0	0	0	0

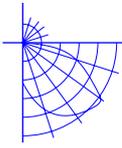


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ROAD SIDE INTENSITY DATA (cd)

Gamma	C-Plane								
	C25	C30	C35	C40	C45	C50	C60	C75	C90
0.0	788	788	788	788	788	788	788	788	788
10.0	794	794	794	793	793	793	792	793	792
20.0	859	857	856	853	852	848	845	843	840
30.0	977	976	974	970	965	959	944	913	895
35.0	1068	1064	1057	1046	1032	1010	966	903	864
40.0	1188	1165	1135	1093	1051	1006	925	821	772
45.0	1302	1227	1142	1054	976	905	787	659	606
47.5	1332	1216	1098	985	887	811	685	560	509
50.0	1328	1163	1010	877	770	689	567	458	413
52.5	1280	1072	891	749	643	570	460	373	338
55.0	1184	943	747	611	515	452	367	297	270
57.5	1045	801	611	492	413	362	294	246	229
60.0	868	652	490	391	333	289	238	212	198
62.5	696	526	396	319	273	232	199	188	177
65.0	532	406	319	259	218	192	172	170	160
67.5	395	313	254	206	180	166	151	157	148
70.0	292	237	197	168	154	147	137	148	142
72.5	212	174	153	140	133	132	128	134	126
75.0	156	137	129	123	118	115	112	120	114
77.5	103	100	99	94	92	90	93	97	92
80.0	64	63	60	59	63	64	63	64	61
82.5	27	26	28	28	33	34	36	34	30
85.0	7	7	7	8	8	10	12	11	10
87.5	3	3	3	2	3	3	3	4	4
90.0	0	0	0	0	0	0	0	0	0
92.5	0	0	0	0	0	0	0	0	0
95.0	0	0	0	0	0	0	0	0	0
97.5	0	0	0	0	0	0	0	0	0
100.0	0	0	0	0	0	0	0	0	0
102.5	0	0	0	0	0	0	0	0	0
105.0	0	0	0	0	0	0	0	0	0
120.0	0	0	0	0	0	0	0	0	0
135.0	0	0	0	0	0	0	0	0	0
150.0	0	0	0	0	0	0	0	0	0
165.0	0	0	0	0	0	0	0	0	0
180.0	0	0	0	0	0	0	0	0	0



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Test Distance: 8.0 metres
Test Temperature: 24.4 degrees Celsius

Significance: This laboratory has no control over the selection of samples to be tested. All testing is performed on the understanding that the significance of the report is limited to the extent that the test sample is representative of production units.

Special Notes: The intensity values contained in this report are shown as tested. When using these values in calculations the appropriate Ballast Factor and Manufacturer's rated lumens MUST be taken into account.

It should also be noted that prorating the lumen output for the use of other lamp/ballast combinations, or for use in different environmental conditions, than that tested may produce erroneous results. The generic term "LOR" is used in this report, it denotes the "Light Output Ratio Luminaire" as defined in Australian Standard AS1680, Part 3, 1991, Section 1.3.9.

This report is free of erasures and corrections.

Photometric intensity values are reported using the CIE Cgamma coordinate system as described in CIE Publication number 121.

Uncertainties: At the 95% confidence interval with a factor $k = 2$, the uncertainties for this report are :-

Temperature	+/- 1 degree Celsius
Light Output Ratio	+/- 4%
Luminous Intensity	+/- 4%
Angular displacement	+/- 0.25 degrees.

Testing Procedure: Tested in accordance with the applicable sections of CIE Publications Numbers 27 (1973) and 34 (1977).