

Report of Test LL24643

Western Power. Product ID: 70 W Metal Arc Roadster Body with 70 W M-A Lamp.
Cast aluminium body with white and raw finish and black plastic gear cover, overall extents ~ 465 x 275 x 125 mm deep. Clear bowl lens with prismatic ribbing forms luminous volume of 313 x 270 x 75 mm deep. Specular hammertone reflectors about lamp. One Sylvania HSI-MetalArc MP 70W lamp centred in L/V.
One Tridonic OMS70A-05 250V 50Hz magnetic ballast.
Tested at 240 V 50 Hz. Spigot mount in C270 position. Measured lamp voltage; 88.8 V.



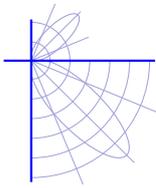
Performance Summary

Luminous Flux	3402 lm
Total Luminaire Power	87.4 W
Luminous Efficacy	38.9 lm / W

Prepared for: Western Power, 363 Wellington Street, Perth, WA 6000.

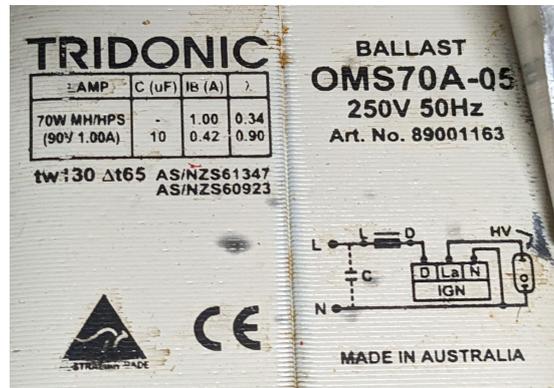
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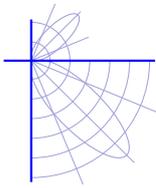




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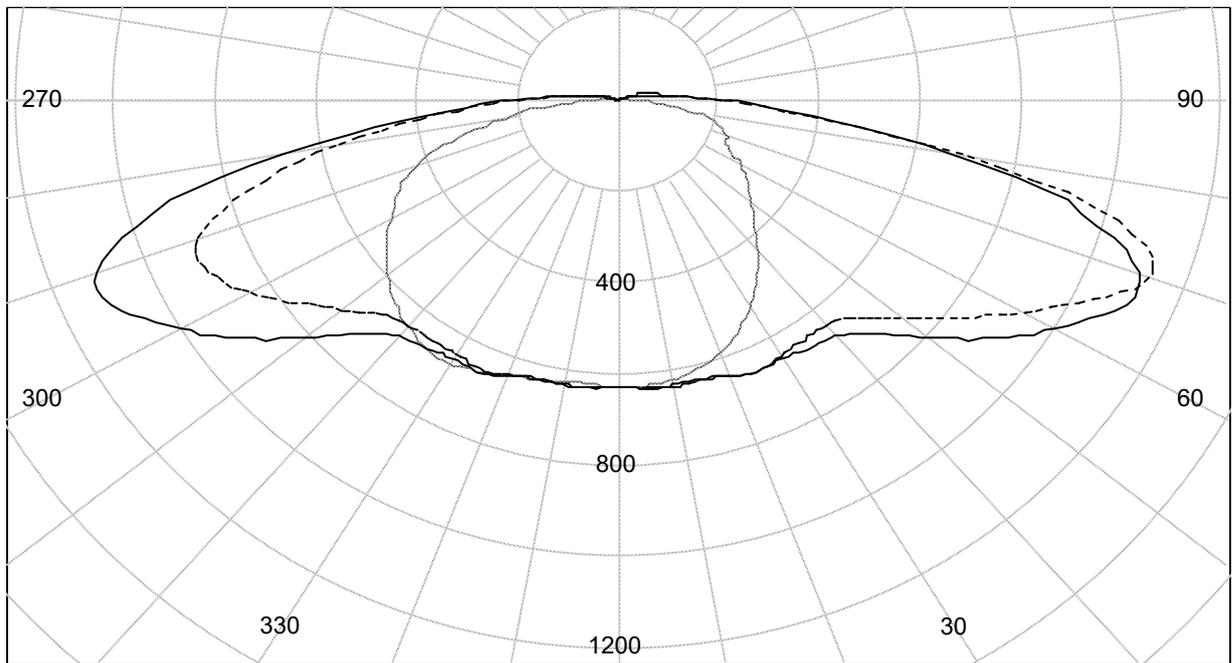
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Polar Light Distribution Curves



Kerbside / Downstream

C0-Solid, Plane of maximum-Dashed, C90-Grey (cd)
C0 aligned towards oncoming traffic

Streetside / Upstream

Street Lantern Summary:

Report data as tested.

	Luminous Flux (lm)		
	Upward	Downward	Total
Street Side	52.0	1603	1655 lm
House Side	43.3	1704	1747 lm
Total Luminous Flux			3402 lm

Certified by:

Toby Southgate
Authorised Signatory

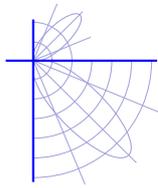
Date of test

9-May-2023

Date of report

05-Jun-2023





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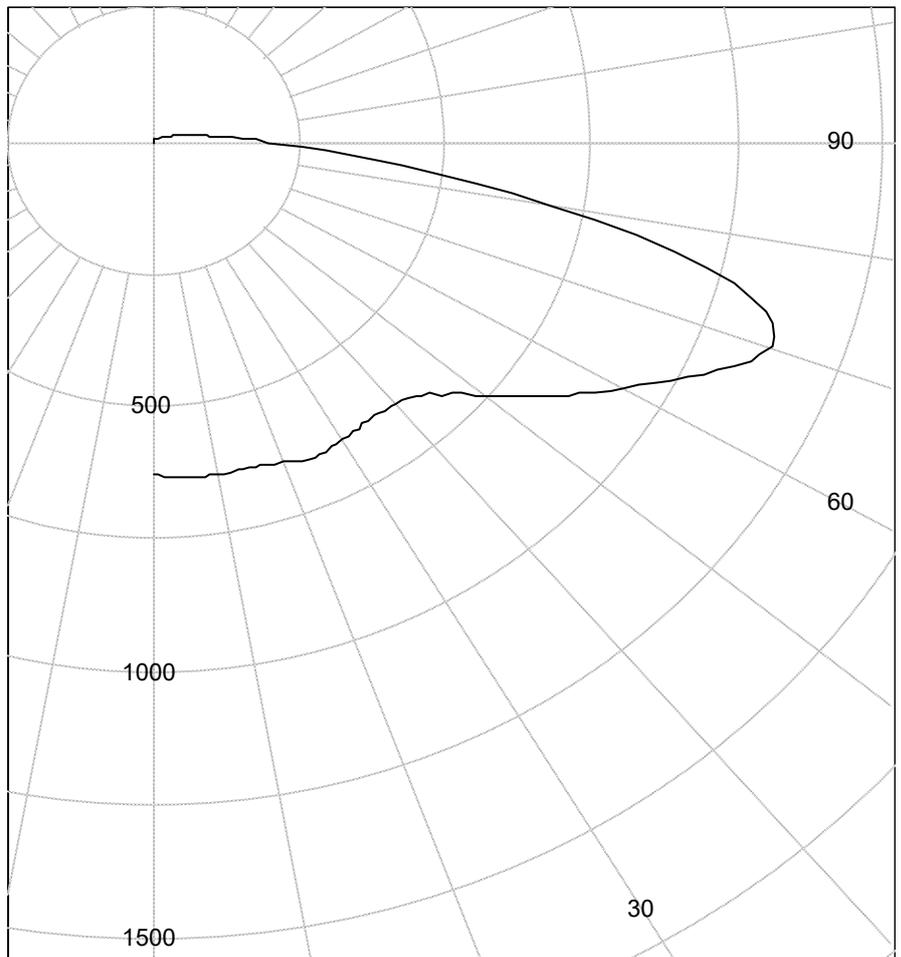
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Luminous intensity
in principal plane

Principal Vertical Plane

Gamma (°)	Intensity (cd)
0.0	629.1
10.0	638.3
20.0	645.2
30.0	647.5
35.0	643.3
40.0	644.8
45.0	673.1
47.5	705.4
50.0	744.4
52.5	790.2
55.0	833.1
57.5	880.2
60.0	930.4
62.5	981.1
65.0	1037
67.5	1093
70.0	1125
72.5	1107
75.0	1028
77.5	875.7
80.0	693.6
82.5	518.6
85.0	382.7
87.5	276.9
90.0	201.2
92.5	146.5
95.0	109.3
97.5	88.9
100.0	77.5
102.5	66.5
105.0	53.7
120.0	5.9
135.0	0.0
150.0	0.0
165.0	0.0
180.0	0.0



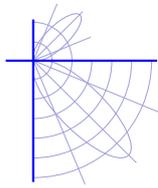
Legend: Plane of maximum luminous intensity (cd)

	Maximum luminous intensity
House Side	1115 cd @ (0.0, 68.0)
Street Side	1127 cd @ (15.0, 70.5)

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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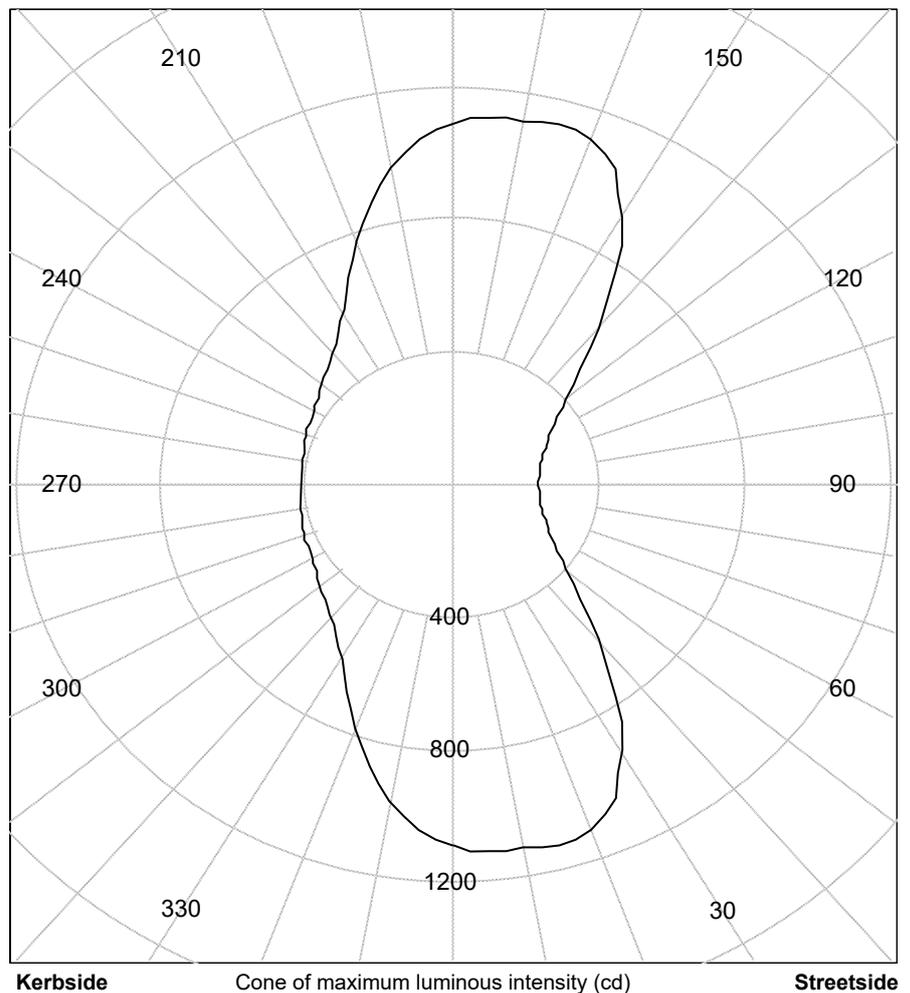
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Tested at 240 V 50 Hz. Spigot mount in C270 position. Measured lamp voltage; 88.8 V.

Luminous intensity
in principal cone

C-Plane (°)	Intensity (cd)
90.0	231.1
75.0	246.6
60.0	299.3
50.0	400.1
45.0	488.6
40.0	618.0
35.0	780.7
30.0	928.4
25.0	1047
20.0	1110
15.0	1127
10.0	1116
5.0	1108
0.0	1092
355.0	1050
350.0	970.4
345.0	881.9
340.0	778.8
335.0	686.6
330.0	608.8
325.0	556.6
320.0	515.3
315.0	489.0
310.0	472.3
300.0	443.4
285.0	424.4
270.0	420.3

Principal Conical Surface



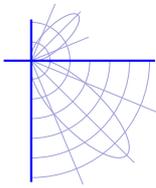
Maximum luminous intensity

House Side 1115 cd @ (0.0, 68.0)

Street Side 1127 cd @ (15.0, 70.5)

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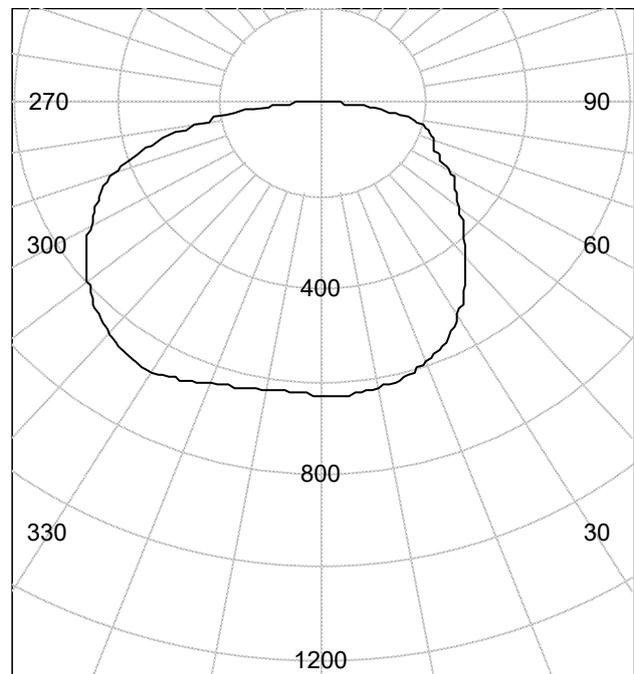
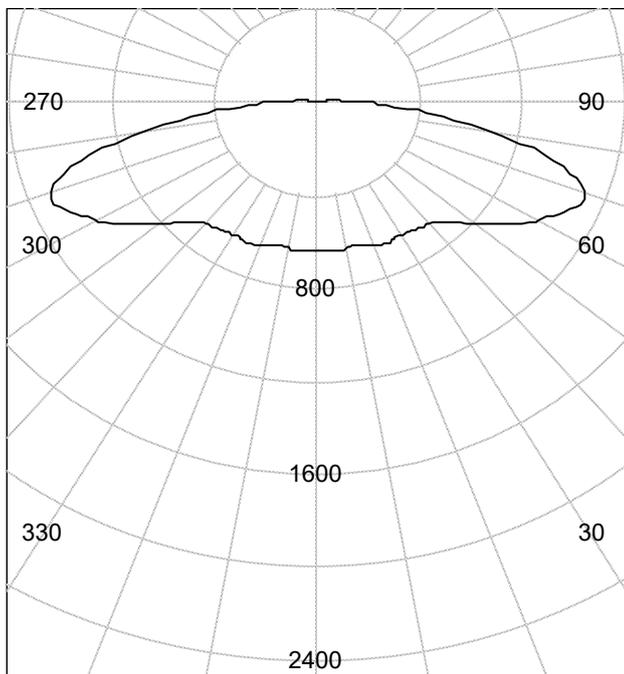
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Polar curve through CIE C0 / C180

Polar curve through CIE C90 / C270



**Downstream
(C180)**

(cd)

**Upstream
(C0)**

**Kerbside
(C270)**

(cd)

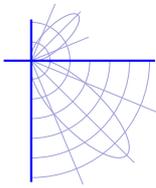
**Streetside
(C90)**

Performance Parameters

I_{80}	=	673.4	cd
I_{88}	=	270.7	cd
I_{90}	=	210.9	cd
I_{80} / I_{88}	=	2.488	

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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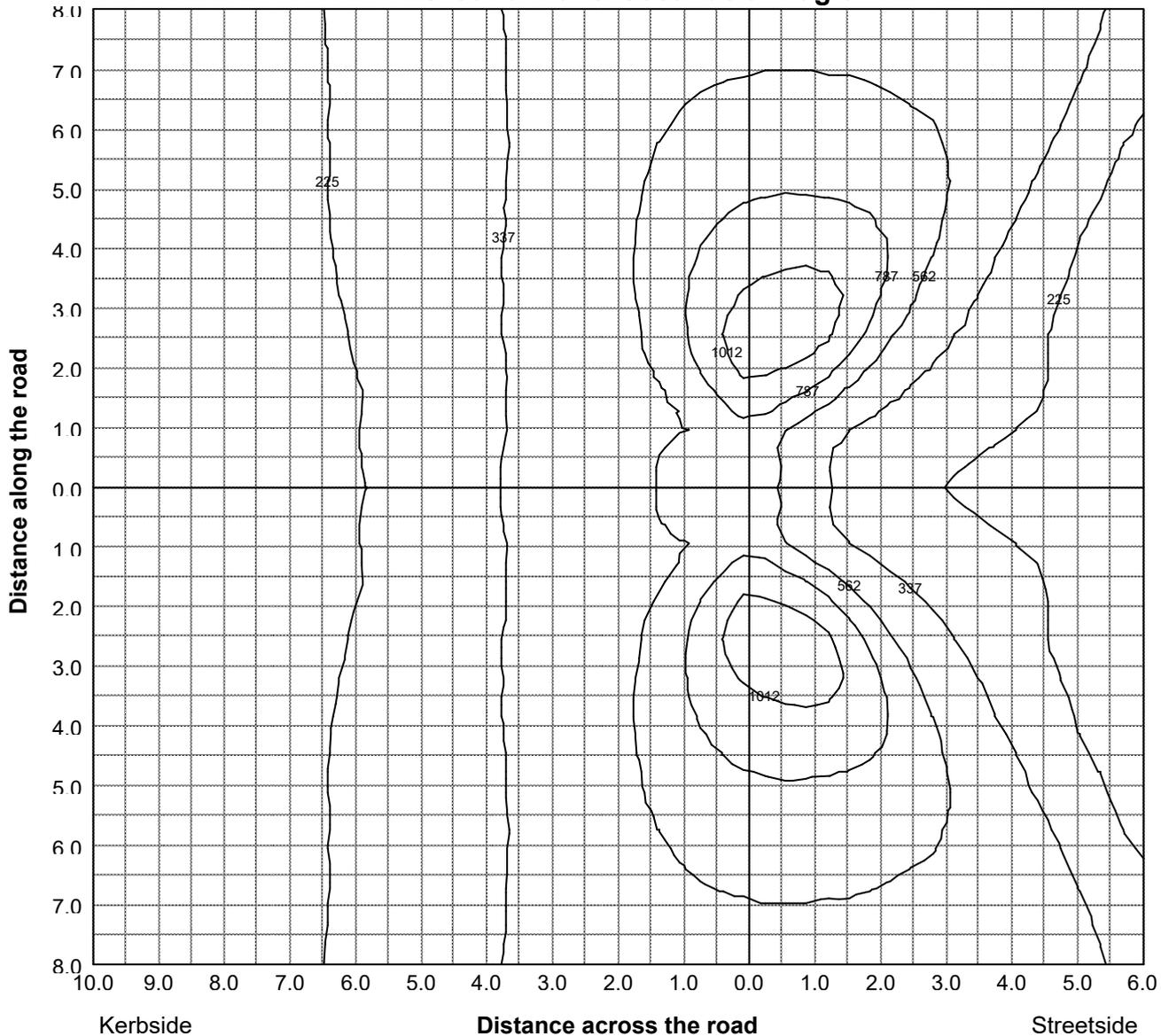
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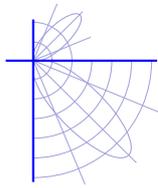
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Ground Plane Isocandela Diagram



Note: The isocandela levels are based on a mounting height of $H = 10.0$ metres. Grid values show multiples of mounting height.
 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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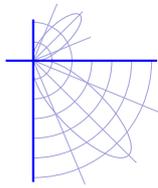
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Kerb side luminous intensity data (cd)

Gamma (°)	C-Plane								
	C270	C285	C300	C310	C315	C320	C325	C330	C335
0.0	629.1	629.1	629.1	629.1	629.1	629.1	629.1	629.1	629.1
10.0	626.2	628.4	630.9	630.5	630.7	630.8	631.8	631.9	632.1
20.0	642.5	644.7	641.1	638.0	636.6	634.9	634.8	636.1	638.6
30.0	668.6	666.3	651.6	637.2	633.2	630.8	629.0	629.3	632.4
35.0	663.9	664.4	643.1	618.7	609.2	605.9	606.7	612.0	621.8
40.0	648.0	647.7	625.7	597.0	586.4	584.7	590.6	600.7	616.1
45.0	625.7	622.2	603.9	580.1	568.9	570.3	577.0	591.0	611.6
47.5	613.0	608.1	591.1	573.4	564.0	564.4	572.3	588.3	616.2
50.0	595.9	595.5	580.5	568.5	561.7	561.6	570.5	590.0	625.7
52.5	576.9	581.8	572.5	564.6	560.4	561.2	571.8	595.2	638.6
55.0	560.8	566.9	563.7	558.2	558.1	562.7	576.9	605.9	653.2
57.5	541.9	550.7	550.8	550.9	551.7	562.8	584.1	617.6	672.9
60.0	517.5	530.0	535.9	539.9	542.7	558.9	587.5	631.3	697.0
62.5	498.3	508.5	517.7	527.6	533.9	554.7	588.4	639.1	711.4
65.0	480.1	487.5	498.7	514.4	525.1	547.1	585.3	639.3	716.7
67.5	459.3	464.0	479.5	497.5	511.7	536.6	576.3	633.3	710.6
70.0	425.9	431.0	449.2	477.0	492.7	519.0	560.5	613.2	691.5
72.5	386.9	388.8	411.7	447.8	465.0	491.6	529.8	578.4	651.9
75.0	342.7	343.3	368.2	407.8	426.5	450.6	484.9	529.8	596.8
77.5	278.6	289.7	324.2	358.9	375.8	402.6	433.0	472.8	531.7
80.0	228.6	240.8	271.6	301.3	317.7	339.0	367.8	400.7	453.2
82.5	183.0	184.6	217.1	242.3	255.0	273.7	300.1	328.0	372.1
85.0	132.8	133.5	159.4	180.1	191.4	208.6	231.4	257.5	299.1
87.5	87.2	83.7	106.2	119.8	131.9	144.5	161.6	188.6	226.3
90.0	53.0	46.7	64.6	73.8	83.3	93.6	109.0	131.7	164.5
92.5	29.2	28.3	35.2	42.5	47.5	56.0	67.8	86.3	110.8
95.0	21.3	21.5	23.8	28.1	31.5	36.1	44.5	61.2	81.6
97.5	17.6	17.7	19.4	22.9	25.6	29.1	35.8	47.7	65.4
100.0	14.5	14.3	15.8	18.6	20.8	24.4	30.0	39.4	52.0
102.5	11.7	10.9	10.7	13.3	15.4	18.9	23.7	31.2	40.4
105.0	8.1	6.4	6.5	9.1	10.8	13.8	17.9	23.0	29.9
120.0	0.0	0.0	0.0	0.1	0.3	0.8	1.3	1.8	2.4
135.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0





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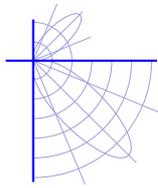
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Tested at 240 V 50 Hz. Spigot mount in C270 position. Measured lamp voltage; 88.8 V.

Gamma (°)	Kerb side		Luminous intensity data (cd)						Road side	
	C340	C345	C350	C355	C-Plane		C10	C15	C20	
					C0	C5				
0.0	629.1	629.1	629.1	629.1	629.1	629.1	629.1	629.1	629.1	
10.0	632.9	633.3	633.7	635.4	635.7	637.2	637.5	638.3	638.9	
20.0	640.8	642.5	644.6	646.8	646.5	647.3	645.6	645.2	642.1	
30.0	636.9	643.3	648.9	653.9	655.0	656.1	652.0	647.5	641.1	
35.0	632.6	643.7	654.1	661.6	663.5	661.7	654.0	643.3	627.9	
40.0	631.7	647.4	661.8	671.7	676.1	674.2	663.2	644.8	621.2	
45.0	637.0	664.3	692.7	712.9	722.4	719.5	702.1	673.1	636.4	
47.5	650.1	688.1	725.9	755.3	766.2	763.8	740.6	705.4	662.0	
50.0	668.9	713.7	759.0	798.8	813.6	810.2	783.7	744.4	693.2	
52.5	689.9	744.0	799.8	845.0	863.1	855.3	828.6	790.2	734.5	
55.0	710.7	775.9	841.5	894.1	915.6	908.4	875.4	833.1	777.6	
57.5	739.0	813.8	886.2	938.7	966.2	955.4	919.5	880.2	834.5	
60.0	769.4	845.8	919.3	980.0	1002	991.4	962.8	930.4	888.4	
62.5	789.6	871.8	951.4	1018	1045	1036	1009	981.1	943.8	
65.0	803.5	892.1	980.9	1054	1089	1081	1061	1037	1003	
67.5	804.4	903.9	999.2	1076	1115	1116	1100	1093	1062	
70.0	785.5	888.4	979.4	1057	1103	1115	1119	1125	1105	
72.5	743.1	836.6	927.5	997.8	1045	1072	1085	1107	1100	
75.0	680.1	758.3	841.8	908.6	955.1	994.5	1018	1028	1017	
77.5	596.5	667.0	738.2	789.9	835.3	855.8	872.4	875.7	870.6	
80.0	509.8	559.7	607.6	646.4	673.4	686.5	688.3	693.6	684.0	
82.5	418.4	455.8	491.5	505.4	516.1	514.2	521.9	518.6	512.4	
85.0	332.2	360.0	381.2	388.7	388.9	381.9	387.5	382.7	373.6	
87.5	250.1	273.3	286.5	289.4	287.0	282.3	281.5	276.9	268.4	
90.0	183.2	197.0	211.9	212.6	210.9	206.0	202.7	201.2	196.6	
92.5	131.3	140.9	147.0	149.6	145.8	144.0	145.1	146.5	142.3	
95.0	95.7	104.0	106.9	107.2	103.6	103.6	107.7	109.3	103.9	
97.5	74.7	79.4	81.2	80.0	78.2	79.6	85.3	88.9	83.6	
100.0	59.4	62.6	63.6	62.9	62.0	65.2	73.6	77.5	71.5	
102.5	45.5	47.7	48.0	48.5	50.3	54.9	63.6	66.5	59.5	
105.0	32.5	34.1	34.5	36.6	39.3	43.6	51.3	53.7	47.7	
120.0	2.8	3.3	3.9	4.4	4.9	5.3	6.0	5.9	5.3	
135.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
150.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
165.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
180.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	





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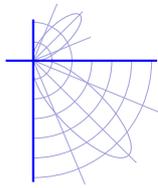
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Road side luminous intensity data (cd)

Gamma (°)	C-Plane								
	C25	C30	C35	C40	C45	C50	C60	C75	C90
0.0	629.1	629.1	629.1	629.1	629.1	629.1	629.1	629.1	629.1
10.0	637.9	638.2	637.9	636.3	635.9	635.0	631.6	625.7	623.6
20.0	639.0	634.9	634.2	630.7	628.3	626.5	618.7	602.4	593.0
30.0	633.6	626.1	619.2	609.1	600.1	591.0	571.4	543.4	526.3
35.0	613.0	598.3	586.1	574.7	564.8	552.6	532.1	500.6	480.7
40.0	597.9	573.9	553.2	534.2	517.6	501.9	479.5	452.4	434.0
45.0	600.5	561.5	528.5	499.4	473.3	451.3	423.2	400.3	385.4
47.5	616.5	567.5	523.9	485.6	454.9	430.9	397.7	374.9	365.8
50.0	639.7	583.1	530.1	484.4	445.8	415.6	378.7	351.8	347.0
52.5	673.1	608.4	547.2	494.2	445.7	407.4	360.1	331.2	328.7
55.0	715.4	643.1	572.7	508.2	450.2	402.9	345.2	314.9	313.7
57.5	770.6	690.4	606.5	528.4	459.1	402.0	331.2	300.3	302.6
60.0	827.1	744.6	649.5	556.8	472.1	404.5	322.0	291.0	283.8
62.5	886.1	800.1	691.6	582.4	485.5	408.2	316.1	279.4	257.4
65.0	944.1	851.1	731.3	605.7	495.0	410.3	310.1	264.3	240.6
67.5	997.4	897.7	762.2	619.9	499.3	408.5	306.2	252.9	233.7
70.0	1043	927.5	781.0	621.3	491.3	402.0	300.9	247.2	232.3
72.5	1044	919.9	766.3	601.7	471.6	383.2	291.2	240.6	219.6
75.0	980.9	854.4	705.2	555.9	436.1	354.9	278.1	234.2	206.9
77.5	847.8	747.4	611.7	484.3	384.9	317.0	254.3	224.1	185.0
80.0	667.6	607.6	500.5	394.8	308.0	255.9	206.9	190.0	155.2
82.5	501.1	470.4	391.6	309.3	236.2	197.9	155.8	148.5	122.2
85.0	363.8	345.7	301.0	232.1	167.9	146.3	109.7	109.2	90.5
87.5	263.1	251.5	222.7	162.6	110.4	94.2	71.9	75.3	56.4
90.0	187.5	182.4	160.2	107.0	67.3	54.5	47.5	48.3	34.1
92.5	134.9	127.4	113.2	71.6	40.0	33.3	32.9	30.9	22.0
95.0	96.9	92.8	82.8	49.4	27.5	24.4	24.1	21.4	18.9
97.5	78.0	72.1	64.7	38.7	22.2	20.7	19.8	17.8	17.5
100.0	64.5	58.6	51.8	31.6	19.0	17.7	17.6	16.0	16.9
102.5	51.3	44.6	38.8	24.3	16.1	14.9	15.0	14.2	16.5
105.0	38.7	33.0	28.4	18.4	12.9	12.0	12.2	12.6	15.2
120.0	4.3	3.5	2.6	1.8	1.3	1.1	1.0	1.6	2.1
135.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0





Test Report No. LL24643

Western Power. Product ID: 70 W Metal Arc Roadster Body with 70 W M-A Lamp.

Cast aluminium body with white and raw finish and black plastic gear cover, overall extents ~ 465 x 275 x 125 mm deep. Clear bowl lens with prismatic ribbing forms luminous volume of 313 x 270 x 75 mm deep.

Specular hammertone reflectors about lamp. One Sylvania HSI-MetalArc MP 70W lamp centred in L/V.

One Tridonic OMS70A-05 250V 50Hz magnetic ballast.

Tested at 240 V 50 Hz. Spigot mount in C270 position. Measured lamp voltage; 88.8 V.

Environment	Photometric distance	8.0 m
	Ambient temperature	25.0 °C

Notes Sampling was not performed. This report is applicable only to the sample that was tested.

The significance of the report is limited to the extent that the sample is representative of the population.

Testing was performed in a laboratory with suitable control of environmental conditions, stray light, electrical supply and stabilisation. The sample was maintained in a fixed orientation for the duration of testing.

The photometric values contained in this report are absolute, they have not been scaled by the luminous flux emitted by the light source .

Prorating values for the use of other light source/driver combinations, or for use in different environmental conditions, may yield erroneous results.

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.

The term "Total luminaire power" may appear in this report, it represents the total electrical power consumption of the device tested.

Procedure LightLab Procedure Test-B3130. Tested in accordance with the applicable sections of CIE Publication Numbers 121 and 34; with reference to Australian Standard AS1680, Part 3.

Measurement uncertainties Measurement uncertainties are available on request.

