

<b>Prüfbericht</b> Test report		<b>Auftragsnr. / order no.:</b> 244268555 <b>Berichtsnr. / report no.:</b> 60397032 001	
<b>Auftraggeber</b> client:		<b>Auftragsdatum /</b> date of order:	
<b>NISKO GROUP LTD.</b>  41 HAMAAYAN MODI'IN, Israel.		23.09.2020  <b>AG-Referenz-Nr. /</b> client reference no.: -	
<b>Inhalt des Auftrags</b> content of order:		Electrical and Photometric Measurement to LM-79-08	
<b>Prüfgrundlagen</b> test specifications:		IES LM-79-08	
<b>Prüfgegenstand</b> test item:		LED Street Light	
<b>Bezeichnung</b> identification:		EL-SL 18MA-80W CLASS I T3VS 3000K	
<b>Eingang Prüfgegenstand</b> receipt of test item:		23.09.2020	
<b>Prüfgegenstands-Nr.</b> test item no.:		A002073542-006	
<b>Prüfzeitraum und -ort</b> period of test and location:		23.09.2020-28.08.2020, Shanghai Xingshang Photoelectric technology Co., Ltd	
<b>Prüflaboratorium</b> testing laboratory:		TÜV Rheinland (Shanghai) Co., Ltd.	
<b>Prüfergebnis</b> test result *):		N/A	
<b>Sonstiges / other aspects:</b>		Tests at client's request and there is only test data available in this report and no further ratings for test result. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government..	
<b>geprüft / tested by:</b>		<b>kontrolliert / reviewed by:</b>	
06.11.2020 Fernando Dai / P		06.11.2020 Alex Yan / Reviewer	
<b>Datum</b> Date	<b>Name/Stellung</b> Name/Position	<b>Unterschrift</b> Signature	<b>Datum</b> Date
<p><b>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.</b> Dieser Prüfbericht wird neben der Dokumentation der Einzelergebnisse durch eine Bewertung des Produktes ergänzt. Diese Bewertung stützt sich nicht in jedem Fall auf ein durchgängiges Punkte- oder Bewertungssystem, wohl aber auf die Erfahrung der Experten des TÜV Rheinland. Die Bewertung ist keine rechtsverbindliche Interpretation der Mängelfreiheit eines Produktes.</p> <p><b>This test report relates to the a. m. test sample. Without permission of the testing laboratory this report is not permitted to be duplicated in extracts.</b> This test report does not entitle to carry any safety or other mark on this product. Besides single test results this test report contains an assessment of the product. This assessment is not always based on a continuous rating system, but on experience of the experts of TÜV Rheinland Group. This assessment is not a legally binding interpretation of the flawlessness of the product.</p>			

**General Remarks:**

Factory: NINGBO SKYZON ENERGY CO., LTD  
Address: No.19, Ke San Road, Ninghai 315600, Ningbo China

**Product Information**

Model name	Sample number	Rated voltage, frequency (V, Hz)	Nominal CCT (K)	Rated Wattage (W)	Type of LED Chip
EL-SL18MA-80W CLASS I T3VS 3000K	A002073542-006	200-240Vac, 50/60Hz	3000K	80W	LUMILEDS LUXEON 5050- L15030705006000 00 18S2P

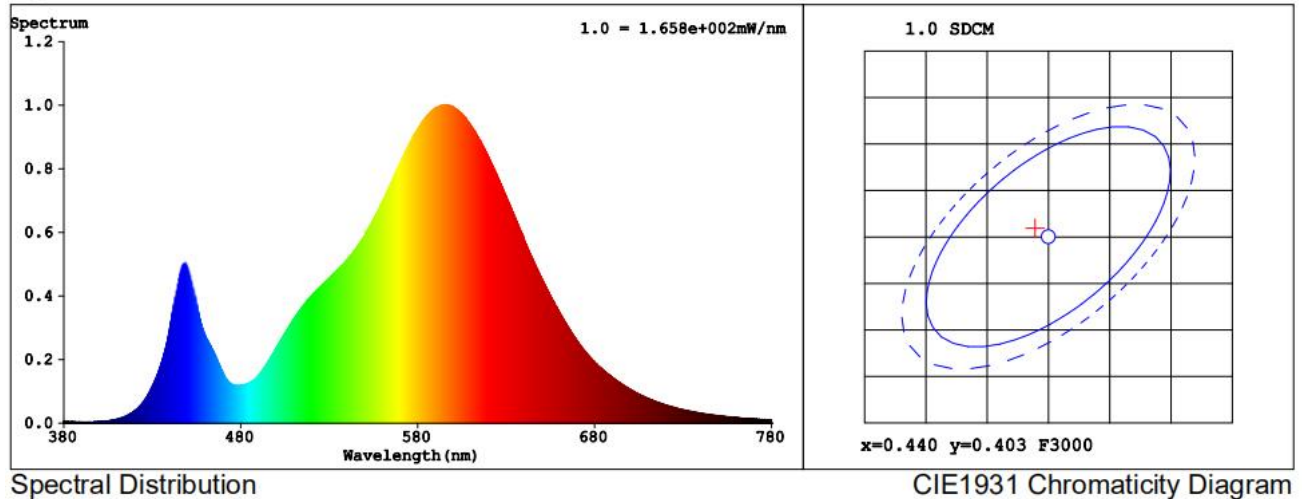
Prüfbericht Nr. / Test report no. 60397032 001

Test conditions:	
Number of hours operated prior to measurement	<u>0</u> hours
Total operating time of the product for measurements including stabilization	<u>2</u> hours and <u>30</u> minutes
Ambient	25 °C
Orientation	As normal use
Stabilization time	<u>90</u> minutes
Test method	Type C Gonio-photometer with moving mirror was used for photometric measurement (C- $\gamma$ system)
Designation and type of reference standard lamp	For standard luminous flux lamp Current: 1.389A Reference luminous flux: 4310 lm Lamp type: Filament lamp Intensity distribution type: Omni-directional
	For standard luminous intensity lamp: Current: 9.6217A Reference luminous intensity: 571.9 cd Lamp type: Tungsten halogen lamp Intensity distribution type: Omni-directional
Correction factor applied	N/A
Photometric distance	3.0m for photometric measurement
	8.98m for luminous intensity measurement

Prüfbericht Nr. / Test report no. 60397032 001

Measured Results	
	EL-SL18MA-80W CLASS I T3VS 3000K
Total luminous flux (lm)	11346
Input wattage (W)	79.825
Input current (A)	0.3675
Frequency (Hz)	50
Power factor	0.9868
Efficacy (lm/W)	142.14
CCT (K)	2966
Chromaticity x	0.4389
Chromaticity y	0.4039
Chromaticity u'	0.2519
Chromaticity v'	0.5216
CRI	73.3
R9	0
Du'v' (Max.)	-0.000327
THDI(%)	4.518
LCS BUG Rating	B2-U0-G2, Non cut-off

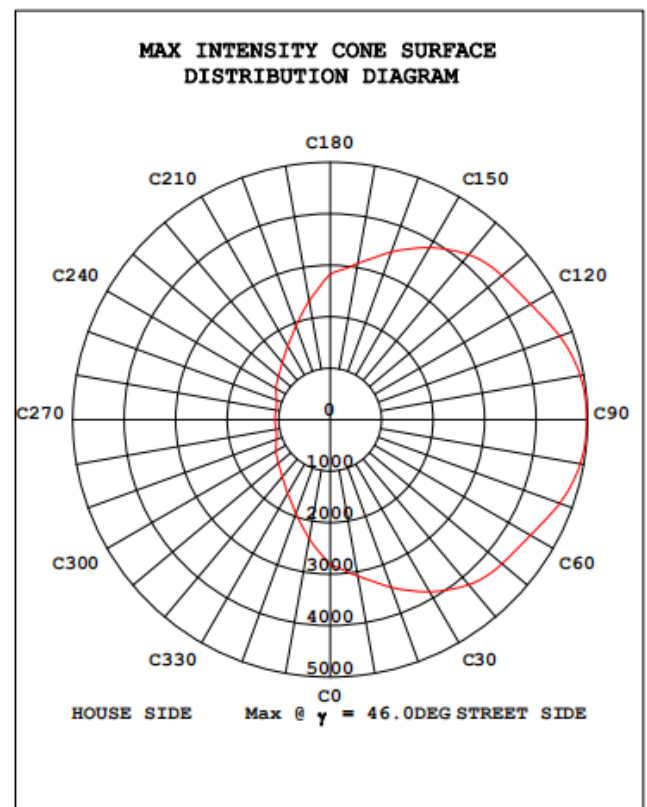
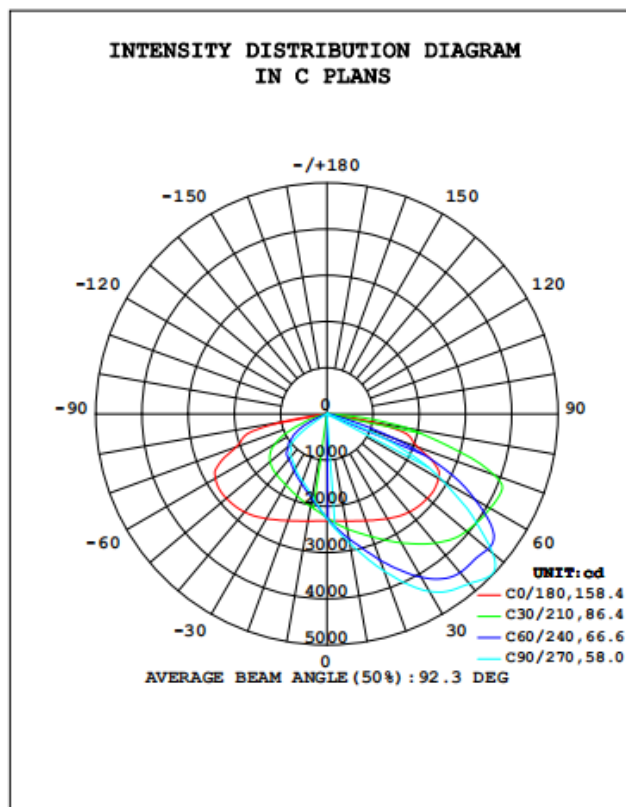
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**Spectral power distribution: (Clause 10 of LM-79)**
**EL-SL18MA-80W CLASS I T3VS 3000K**

**Dominant WL: 583.1nm**  
**Peak WL: 596nm**
**Luminous Intensity Distribution, Ambient temperature: 25°C (Clause 10 of LM-79)**

Description	Data
Model	EL-SL18MA-80W CLASS I T3VS 3000K
Test voltage (V)	220VAC
Test current (A)	0.3675
Test wattage (W)	79.825
Frequency (Hz)	50
Power factor	0.9868
Central luminous intensity (cd)	2268
Max. luminous intensity(cd)	4978.56 (C=0, Gamma=46)

**For the distribution curve see next page.**
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DATA OF LAMP		PHOTOMETRIC DATA    Eff: 142.14 lm/W			
MODEL	EL-SL18MA	I <sub>max</sub> (cd)	4978.56	η street_up (%)	0.0
NOMINAL POWER (W)	80	LOR (%)	100.0	η street_down (%)	73.1
RATED VOLTAGE (V)	220-240	TOTAL FLUX (lm)	11346	η house_up (%)	0.0
NOMINAL FLUX (lm)	11346	MAXIMUM @ (C, γ )	0,46.0	η house_down (%)	26.9
LAMPS INSIDE	1	η up (%)	0.0	76 FLASHAREA (m2)	0.05000
TEST VOLTAGE (V)	220	η down (%)	100.0	SLI	23.995



**Zonal Lumen Summary and Percentages****Zonal Lumen Summary**

Zone	Lumens	%Lamp	%Fixt
0-20	886.46	7.80	7.80
0-30	2068.99	18.20	18.20
0-40	3790.37	33.40	33.40
0-60	8315.26	73.30	73.30
0-80	11173.58	98.50	98.50
0-90	11346.04	100.00	100.00
10-90	11129.5	98.10	98.10
20-40	2903.91	25.60	25.60
20-50	5090.98	44.90	44.90
40-70	6423.84	56.60	56.60
60-80	2858.33	25.20	25.20
70-80	959.38	8.50	8.50
80-90	172.46	1.50	1.50
90-110	0.00	0.00	0.00
90-120	0.00	0.00	0.00
90-130	0.00	0.00	0.00
90-150	0.00	0.00	0.00
90-180	0.00	0.00	0.00
110-180	0.00	0.00	0.00
0-180	11346.04	100.00	100.00

Total Luminaire Efficiency = 100.00%

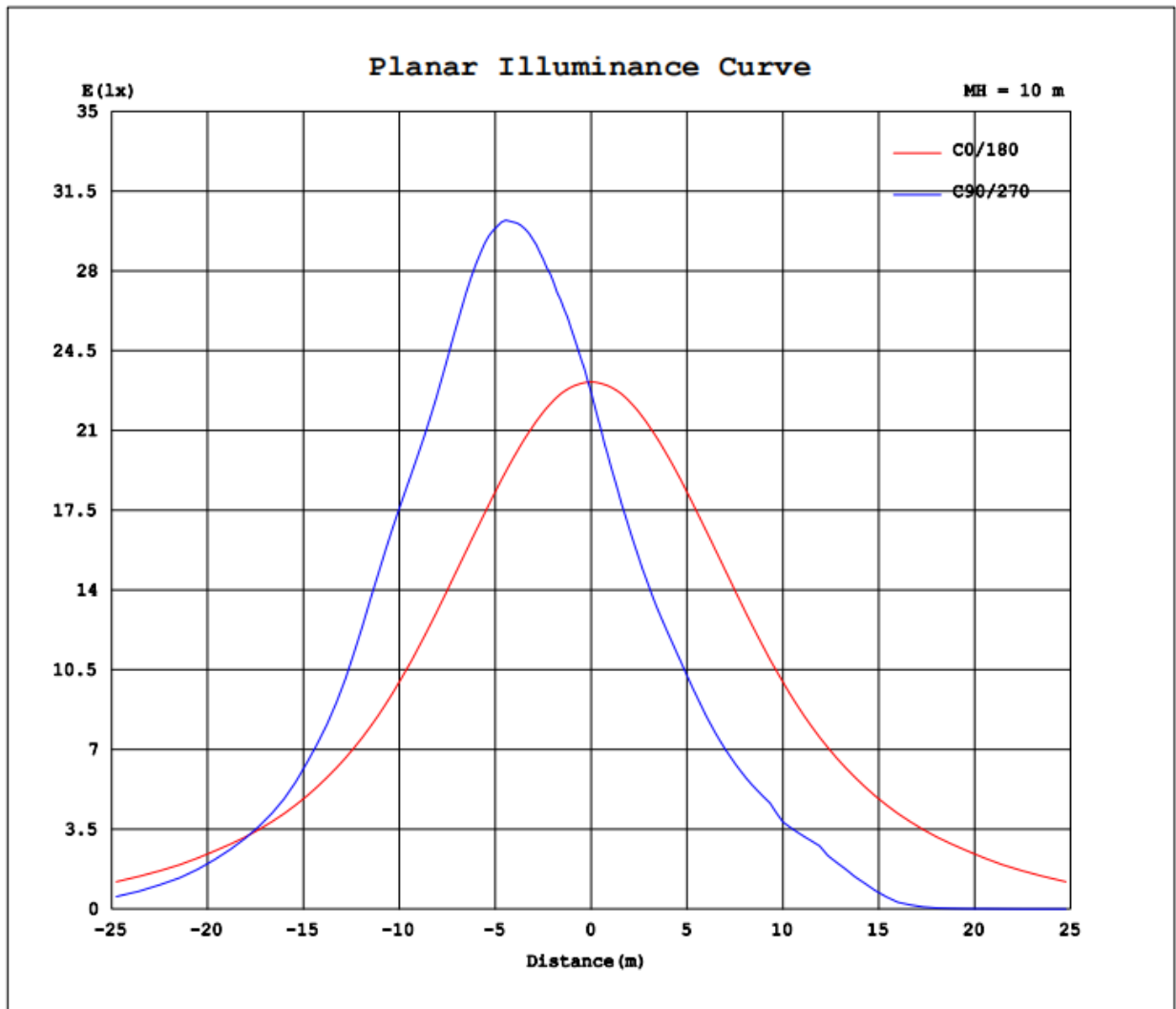


## Luminous Intensity Distribution Data

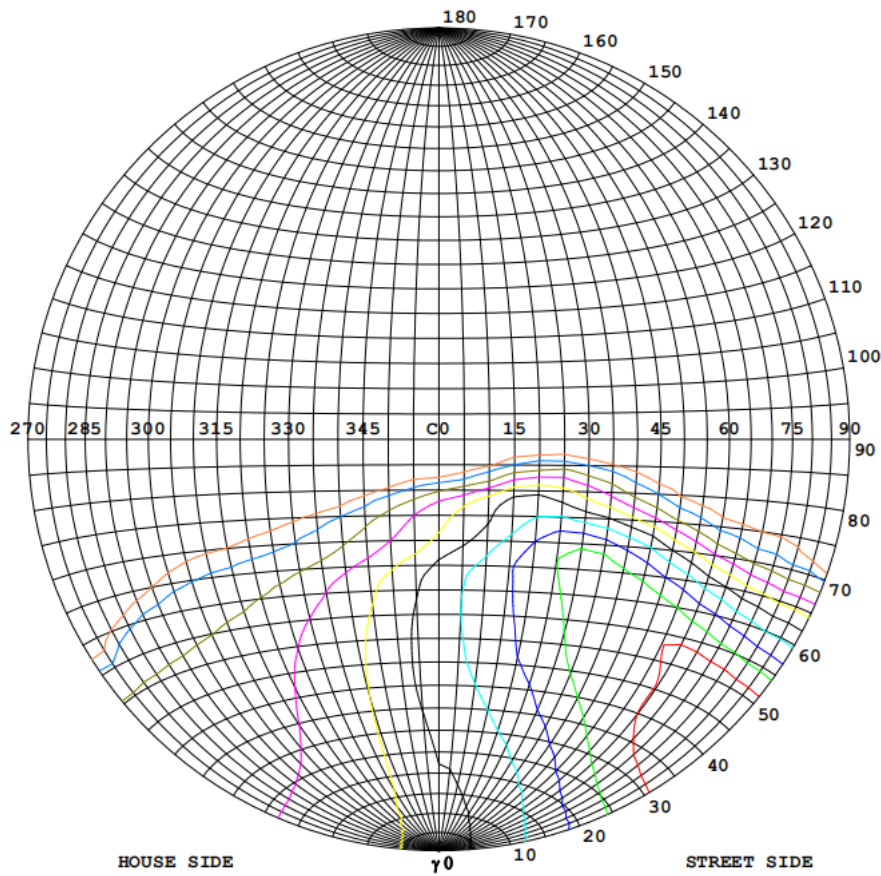
Tool_View EL-S118MA 80W CLASS I T3VS 3000KIES																											
Keywords					Candela										20					30							
Vertical Angles		Horizontal Angles			Multiplier=1		Max Cd																				
		0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105				
22	3781 95	3760 65	3748 02	3696 92	3666 14	3571 43	3504 51	3392 34	3306 84	3179 86	3089 81	2973 85	2898 54	2795 60	2731 95	2653 46	2584 02	2507 26	2495 81	2337 24	2239 74	2140 15					
23	3870 97	3845 68	3848 02	3786 01	3746 66	3645 13	3580 20	3460 50	3372 63	3234 64	3143 92	3015 81	2935 78	2827 47	2761 40	2679 37	2606 01	2525 56	2500 87	2348 23	2245 95	2141 67					
24	3964 57	3938 76	3928 13	3870 52	3829 22	3729 97	3652 15	3528 76	3439 16	3293 72	3193 21	3060 05	2974 87	2860 58	2791 23	2705 26	2628 65	2544 67	2516 38	2359 48	2251 55	2142 72					
25	4049 88	4023 45	4014 30	3956 39	3910 89	3815 21	3724 07	3603 87	3501 96	3352 71	3246 33	3104 45	3014 49	2893 88	2820 11	2730 72	2650 94	2564 62	2532 50	2370 33	2257 53	2144 30					
26	4127 82	4113 47	4091 48	4038 67	3982 26	3892 00	3794 58	3671 96	3560 35	3410 71	3297 87	3153 66	3054 19	2930 40	2850 91	2758 22	2673 63	2584 12	2548 39	2381 52	2263 13	2146 24					
27	4210 76	4194 34	4174 72	4115 47	4063 26	3960 76	3868 84	3740 02	3621 92	3468 58	3350 31	3199 48	3095 70	2960 78	2881 46	2784 44	2696 49	2604 71	2564 50	2393 19	2270 24	2147 55					
28	4293 56	4272 84	4255 93	4195 40	4144 63	4033 50	3945 56	3804 76	3684 06	3524 93	3404 89	3246 19	3136 82	2998 85	2910 47	2809 82	2719 20	2622 32	2581 21	2405 10	2277 35	2150 29					
29	4367 31	4348 90	4328 84	4271 53	4220 36	4116 09	4015 62	3878 92	3745 35	3587 81	3467 89	3292 85	3177 30	3034 11	2933 64	2835 72	2741 25	2642 16	2597 95	2417 26	2284 39	2152 12					
30	4430 54	4415 57	4394 53	4338 75	4281 88	4184 98	4077 41	3941 86	3805 59	3646 75	3510 33	3341 41	3220 61	3107 14	2968 67	2861 75	2764 68	2662 17	2616 02	2430 48	2292 53	2155 34					
31	4492 34	4478 37	4456 38	4405 59	4348 54	4244 85	4141 77	4002 40	3863 71	3704 50	3560 29	3389 00	3261 61	3106 14	2998 23	2887 51	2784 64	2683 63	2633 11	2444 25	2300 13	2157 32					
32	4546 56	4531 74	4513 97	4461 52	4404 69	4303 16	4205 93	4104 04	3922 80	3759 42	3616 53	3438 41	3303 75	3142 39	3028 42	2911 73	2809 48	2703 81	2650 97	2457 90	2308 11	2159 21					
33	4594 02	4578 90	4560 76	4514 67	4458 60	4362 90	4263 83	4162 18	3977 02	3815 35	3665 88	3486 05	3346 30	3176 48	3058 45	2936 11	2832 93	2724 91	2668 56	2470 78	2315 58	2161 04					
34	4630 96	4621 88	4599 45	4559 82	4508 91	4417 86	4308 82	4175 35	4027 58	3869 94	3716 18	3538 96	3389 59	3213 56	3087 83	2962 88	2854 89	2745 32	2686 04	2484 01	2322 84	2162 78					
35	4663 66	4653 86	4634 38	4594 40	4545 94	4454 14	4352 02	4222 56	4072 55	3920 60	3764 25	3590 50	3433 63	3250 24	3118 06	2988 24	2877 63	2764 63	2702 68	2496 83	2329 94	2164 81					
36	4692 49	4679 39	4662 93	4623 02	4575 90	4490 66	4394 20	4264 07	4124 23	3967 25	3812 73	3636 32	3478 05	3286 49	3147 19	3012 61	2898 59	2783 28	2718 33	2507 90	2336 26	2165 37					
37	4716 25	4703 02	4685 98	4645 29	4599 12	4518 22	4428 34	4284 31	4167 94	4013 30	3857 34	3683 54	3522 96	3323 13	3177 66	3036 29	2919 28	2801 21	2733 17	2518 26	2341 92	2166 31					
38	4738 65	4727 54	4705 73	4661 48	4614 84	4539 84	4453 71	4335 98	4204 40	4058 55	3902 36	3730 57	3564 92	3358 49	3208 10	3061 44	2938 25	2817 66	2746 03	2527 71	2346 05	2166 08					
39	4763 65	4752 29	4725 88	4681 28	4627 41	4551 66	4470 84	4362 85	4238 41	4098 30	3945 32	3775 69	3606 57	3396 78	3238 87	3084 17	2959 35	2833 81	2760 53	2537 31	2351 25	2164 19					
40	4793 99	4779 14	4750 05	4699 45	4636 33	4559 75	4482 67	4383 75	4268 78	4134 79	3986 97	3817 70	3647 57	3436 13	3270 40	3108 31	2977 96	2850 54	2772 07	2554 79	2353 93	2161 41					
41	4827 88	4811 40	4778 76	4718 44	4664 56	4595 79	4489 10	4399 97	4295 99	4170 19	4028 15	3858 07	3685 81	3475 41	3302 53	3133 16	2996 47	2866 02	2783 20	2541 54	2355 94	2168 21					
42	4868 17	4848 11	4813 22	4740 95	4658 58	4569 31	4490 64	4409 70	4317 16	4204 87	4063 67	3896 26	3724 68	3516 32	3337 18	3158 15	3014 67	2880 61	2792 85	2556 81	2356 56	2153 82					
43	4908 52	4888 20	4850 23	4770 01	4675 65	4575 25	4490 12	4402 15	4334 89	4235 93	4137 91	3933 18	3761 96	3567 27	3370 44	3180 90	3033 70	2894 01	2800 77	2561 31	2365 61	2148 55					
44	4943 19	4928 37	4893 04	4800 92	4697 77	4593 76	4489 04	4415 36	4347 67	4260 53	4129 82	3969 84	3798 92	3598 83	3401 41	3205 61	3051 40	2906 64	2810 00	2564 79	2364 54	2142 89					
45	4978 61	4956 24	4916 54	4829 58	4724 06	4594 04	4487 62	4412 53	4343 57	4279 87	4159 40	3942 51	3829 93	3624 20	3435 29	3265 10	3067 71	2920 94	2817 29	2566 26	2351 87	2147 68					
46	4978 56	4970 26	4932 21	4852 75	4743 05	4608 46	4490 57	4408 35	4354 56	4292 82	4194 48	4028 48	3860 12	3661 91	3466 41	3254 48	3084 70	2930 78	2822 11	2568 90	2347 94	2130 35					
47	4984 58	4960 26	4924 46	4862 35	4762 07	4628 33	4501 22	4404 84	4361 32	4300 74	4203 83	4055 04	3887 28	3688 40	3493 12	3275 48	3095 62	2938 56	2828 03	2569 73	2344 12	2122 90					
48	4995 20	4912 24	4887 88	4850 77	4767 87	4647 67	4515 74	4407 40	4346 06	4303 97	4218 76	4079 03	3909 71	3733 99	3514 15	3291 87	3115 13	2946 20	2831 60	2569 53	2338 96	2115 02					
49	4815 70	4803 12	4810 21	4810 05	4753 01	4658 45	4533 91	4415 51	4343 49	4303 11	4286 24	4098 82	3927 94	3733 37	3530 46	3303 73	3104 30	2952 33	2836 51	2568 87	2334 03	2106 56					
50	4860 64	4807 43	4708 93	4738 77	4711 47	4657 36	4550 43	4441 20	4344 82	4301 74	4235 54	4114 91	3945 77	3749 74	3545 29	3316 02	3123 37	2958 35	2838 64	2567 04	2327 16	2098 12					
51	4523 87	4555 09	4571 06	4634 65	4640 00	4635 08	4556 37	4431 29	4351 91	4300 35	4232 60	4127 70	3961 20	3762 84	3558 38	3326 44	3131 76	2964 88	2843 01	2564 73	2318 69	2087 30					
52	4341 96	4378 82	4407 54	4502 28	4540 94	4584 99	4548 14	4464 79	4363 58	4299 34	4237 57	4136 34	3977 17	3772 92	3568 78	3338 20	3140 93	2973 16	2845 89	2559 99	2308 60	2075 24					
53	4168 05	4216 07	4237 47	4344 65	4418 42	4509 48	4520 70	4473 93	4373 96	4302 90	4240 60	4135 21	3991 50	3792 22	3582 05	3352 60	3150 03	2978 98	2846 91	2553 78	2297 42	2061 69					
54	4000 05	4034 13	4064 91	4176 73	4270 15	4409 98	4462 14	4490 50	4390 01	4298 48	4245 58	4150 49	4006 77	3808 64	3597 59	3382 01	3159 56	2983 45	2846 06	2545 45	2293 06	2046 93					

Tool_View EL-SL18MA 80W CLASS I T3V5 3000K.IES																							
Keywords				Candela								2D				3D							
Vertical Angles				Horizontal Angles				Multiplier=1				Max Cd											
	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355	360	
32	2159.21	2308.11	2457.90	2650.97	2703.81	2809.88	2911.73	3028.42	3142.39	3303.75	3438.41	3616.53	3759.42	3922.80	4064.04	4205.92	4303.16	4409.55	4461.52	4513.97	4531.74	4546.56	
33	2161.04	2311.58	2470.78	2668.56	2722.81	2832.49	2936.11	3058.45	3176.46	3346.30	3487.05	3665.88	3815.35	3977.02	4120.18	4260.83	4362.90	4464.60	4514.67	4560.76	4580.92	4594.02	
34	2162.78	2322.94	2484.01	2686.04	2745.32	2854.89	2958.28	3087.63	3213.56	3389.59	3538.96	3716.18	3869.94	4027.51	4175.51	4308.82	4417.86	4508.91	4559.82	4599.45	4621.88	4630.96	
35	2164.81	2332.69	2496.83	2702.68	2764.63	2877.23	2988.24	3118.08	3250.24	3433.63	3590.50	3764.25	3920.60	4076.58	4222.36	4362.02	4458.14	4543.96	4594.40	4634.38	4653.86	4663.66	
36	2165.37	2336.26	2507.90	2718.33	2783.28	2898.59	3012.61	3147.19	3286.49	3478.05	3636.32	3812.73	3967.25	4124.23	4264.07	4394.20	4490.66	4575.90	4623.02	4662.93	4679.39	4682.49	
37	2166.34	2341.92	2518.26	2728.17	2793.21	2919.28	3036.29	3177.66	3323.13	3522.96	3683.54	3857.24	4013.30	4167.94	4302.21	4428.34	4518.22	4599.12	4645.29	4685.98	4703.02	4716.25	
38	2166.08	2346.05	2527.71	2746.53	2817.66	2939.35	3061.44	3208.10	3358.49	3564.92	3730.57	3902.36	4068.55	4230.40	4355.98	4453.71	4539.84	4614.84	4664.49	4705.73	4727.54	4738.65	
39	2164.19	2351.25	2537.31	2760.03	2833.61	2958.25	3084.17	3238.97	3398.76	3606.57	3779.65	3945.32	4098.30	4248.41	4362.85	4457.04	4546.61	4627.41	4681.28	4725.88	4752.59	4763.65	
40	2161.41	2353.93	2544.79	2772.07	2850.54	2977.97	3108.31	3270.40	3436.11	3647.57	3817.70	3986.97	4134.79	4268.98	4383.75	4482.67	4569.75	4636.33	4699.45	4750.05	4779.14	4793.99	
41	2159.12	2355.54	2551.54	2783.20	2866.02	2996.47	3131.36	3302.53	3475.43	3685.81	3859.07	4025.18	4170.19	4295.99	4399.97	4489.10	4569.75	4636.16	4718.44	4778.81	4801.00	4827.88	
42	2153.82	2356.56	2556.81	2792.85	2880.67	3014.67	3158.15	3337.18	3516.32	3724.68	3896.26	4063.67	4204.87	4317.16	4409.70	4490.62	4569.31	4658.58	4740.95	4813.22	4848.11	4868.17	
43	2148.55	2356.61	2561.31	2800.77	2894.01	3033.70	3180.90	3370.44	3557.27	3761.96	3933.18	4097.31	4235.53	4334.89	4415.39	4490.14	4569.22	4657.65	4740.01	4809.23	4888.20	4908.52	
44	2142.89	2354.54	2564.79	2810.00	2906.64	3051.40	3205.61	3401.41	3594.83	3798.92	3969.84	4129.82	4260.53	4347.57	4415.36	4489.04	4563.76	4657.77	4800.92	4863.04	4928.37	4943.19	
45	2137.68	2351.25	2566.26	2817.29	2906.94	3067.71	3232.40	3435.29	3628.20	3829.93	4001.59	4159.40	4279.87	4363.60	4421.53	4487.62	4594.04	4720.46	4829.58	4913.54	4956.24	4970.61	
46	2130.35	2347.94	2568.90	2822.11	2930.78	3094.70	3254.48	3466.41	3661.91	3860.12	4028.48	4184.48	4292.82	4354.56	4408.35	4490.57	4562.43	4743.55	4852.75	4932.21	4970.26	4978.56	
47	2122.90	2344.12	2563.73	2828.03	2938.56	3098.62	3275.74	3433.12	3688.40	3887.28	4055.48	4203.83	4300.74	4351.32	4404.84	4501.22	4608.33	4762.07	4862.35	4934.66	4960.07	4960.44	
48	2115.02	2338.96	2563.53	2831.60	2946.20	3105.13	3291.87	3515.14	3713.99	3909.71	4079.03	4218.76	4303.97	4346.407	4407.40	4514.75	4647.67	4767.87	4850.77	4887.88	4912.24	4905.20	
49	2106.34	2330.63	2568.87	2836.51	2952.33	3114.30	3303.73	3530.46	3733.37	3927.94	4088.62	4228.24	4303.19	4343.49	4415.51	4533.91	4658.45	4753.91	4810.05	4833.20	4812.70	4815.70	
50	2098.12	2327.16	2567.04	2838.64	2958.35	3123.37	3316.02	3545.29	3749.70	3945.77	4114.91	4232.54	4301.74	4344.82	4407.20	4550.43	4635.96	4711.47	4738.37	4708.73	4705.93	4680.64	
51	2087.30	2318.69	2564.03	2839.61	2964.88	3130.43	3326.44	3568.38	3762.84	3961.20	4127.20	4235.60	4300.35	4351.91	4449.35	4556.37	4637.88	4640.06	4634.65	4615.06	4555.09	4523.87	
52	2075.24	2309.60	2559.98	2845.89	2973.16	3140.93	3332.60	3582.78	3777.92	3977.17	4146.34	4237.57	4299.34	4363.58	4464.79	4548.14	4584.99	4543.50	4502.28	4457.54	4378.82	4341.96	
53	2061.69	2297.42	2553.78	2846.91	2978.98	3150.03	3362.20	3569.05	3792.22	3991.50	4135.41	4240.60	4302.90	4367.61	4473.99	4520.70	4509.48	4418.42	4434.64	4420.45	4206.17	4168.05	
54	2046.83	2283.96	2545.46	2846.66	2963.45	3159.56	3366.21	3597.59	3808.64	4006.77	4150.49	4245.58	4308.46	4390.00	4470.59	4468.14	4409.98	4270.15	4176.73	4064.91	4034.10	4000.05	
55	2031.51	2268.93	2534.05	2841.63	2963.79	3167.94	3377.86	3613.39	3826.17	4022.66	4165.10	4250.82	4314.92	4397.76	4450.25	4387.08	4288.77	4107.25	4031.90	3989.89	3871.30	3837.08	
56	2013.92	2253.23	2521.99	2835.83	2968.01	3173.98	3388.17	3627.82	3846.10	4035.99	4164.94	4256.18	4322.16	4395.12	4407.02	4280.35	4139.40	3942.32	3850.46	3756.91	3685.90	3666.22	
57	1995.46	2235.37	2506.78	2826.17	2967.67	3178.78	3398.01	3639.42	3864.83	4048.43	4174.21	4261.98	4327.60	4378.29	4332.87	4151.68	3979.34	3793.26	3680.48	3569.79	3500.50	3452.88	
58	1975.85	2218.52	2490.92	2815.53	2965.35	3183.28	3405.55	3651.55	3881.79	4059.17	4184.68	4266.71	4327.78	4338.85	4238.69	4008.47	3825.71	3644.41	3510.51	3358.55	3314.99	3255.68	
59	1955.13	2200.03	2473.40	2803.28	2961.46	3185.65	3411.25	3662.88	3898.63	4070.31	4194.36	4270.84	4318.77	4277.37	4115.32	3854.61	3675.45	3477.11	3340.02	3152.42	3127.35	3072.29	
60	1931.01	2177.72	2452.35	2787.49	2975.75	3187.63	3415.66	3674.91	3913.33	4081.67	4203.77	4272.03	4293.90	4186.83	3982.57	3693.94	3524.93	3382.50	3136.37	2970.44	2955.76	2902.89	
61	1906.87	2155.80	2431.70	2769.06	2964.95	3184.45	3420.09	3683.14	3938.17	4093.42	4212.95	4267.39	4247.10	4131.71	3833.96	3542.64	3356.76	3078.40	2934.38	2799.67	2773.35	2719.62	
62	1883.71	2133.89	2406.75	2750.96	2956.18	3180.52	3423.13	3702.84	3958.59	4104.74	4219.87	4249.87	4177.91	3944.73	3881.39	3387.31	3186.03	2866.72	2726.63	2685.67	2580.53	2532.06	
63	1855.05	2107.75	2376.23	2720.90	2940.56	3164.24	3426.02	3714.25	3949.44	4114.42	4219.69	4243.63	4081.18	3978.39	3528.78	3212.94	3042.67	2650.45	2517.78	2348.59	2365.66	2318.31	
64	1798.09	2070.81	2341.08	2695.48	2915.94	3149.34	3424.67	3713.23	3950.96	4123.97	4210.74	4155.97	3965.30	3648.73	3276.96	3015.30	2792.69	2431.43	2311.63	2179.49	2124.74	2074.74	





## STREETLIGHT ISOCANDELA DIAGRAM

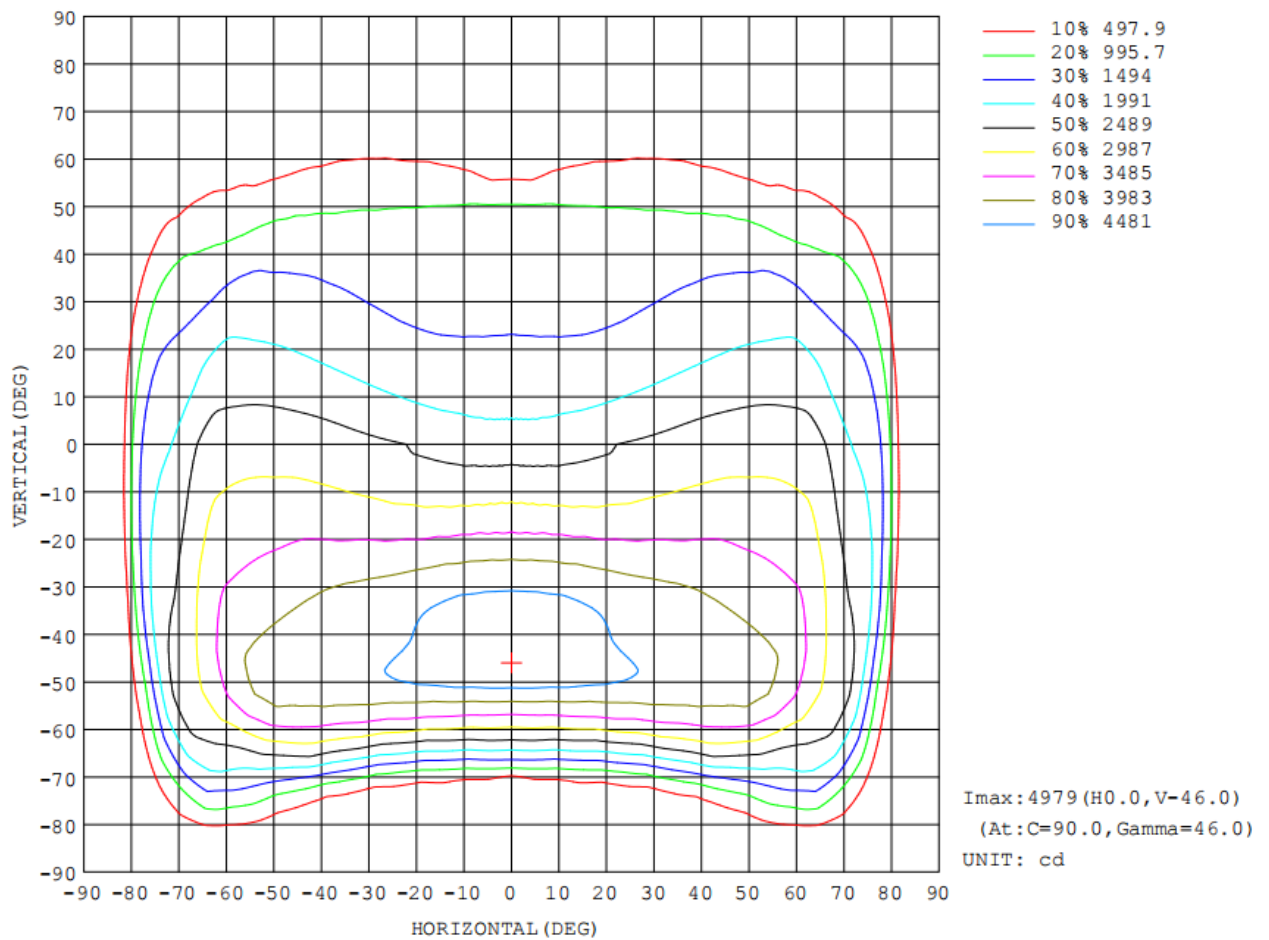


### Classification:

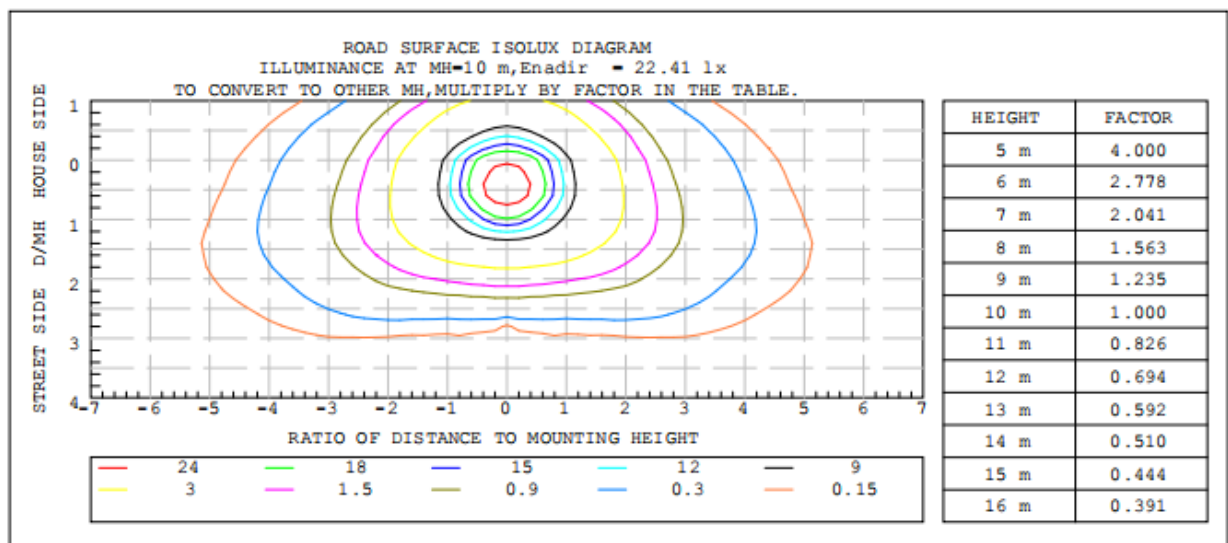
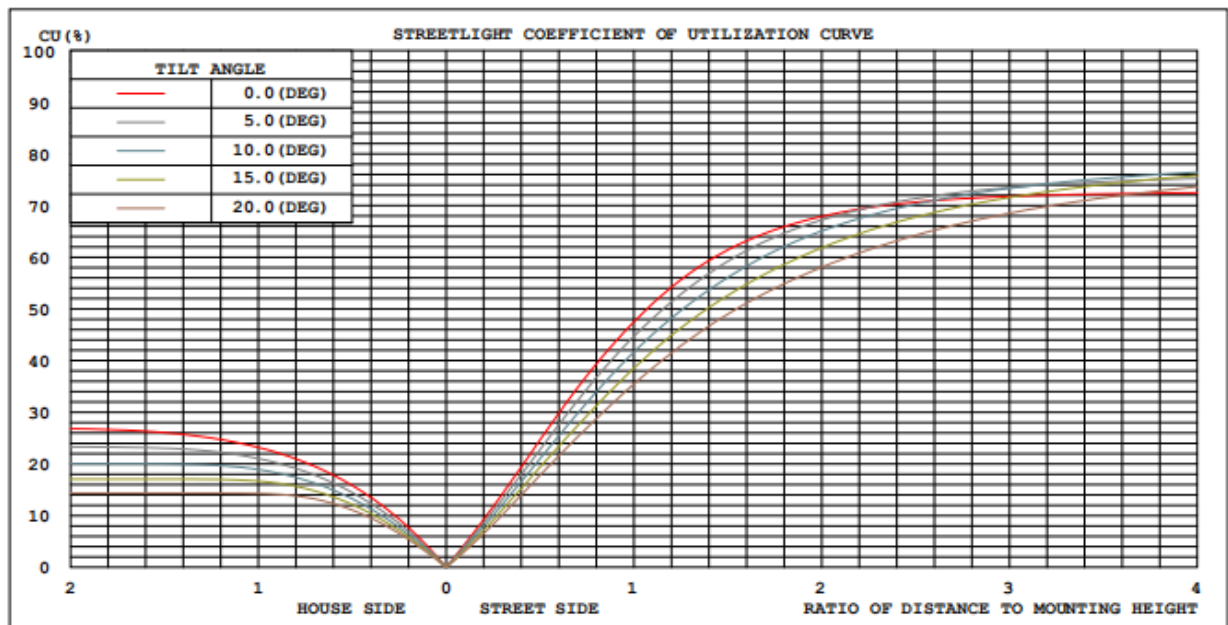
IES:Type III - Very Short  
CIE:Average - Short  
IES:None cut-off  
CIE:Non-cut-off  
Max.At80:202.2cd/klm  
Max.At90:0cd/klm  
Max.80-90:202.2cd/klm

ISOCANDELA DIAGRAM	
UNIT	cd
I <sub>max</sub> =100%	4979
90%	4481
80%	3983
70%	3485
60%	2987
50%	2489
40%	1991
30%	1494
20%	996
10%	498
5%	249

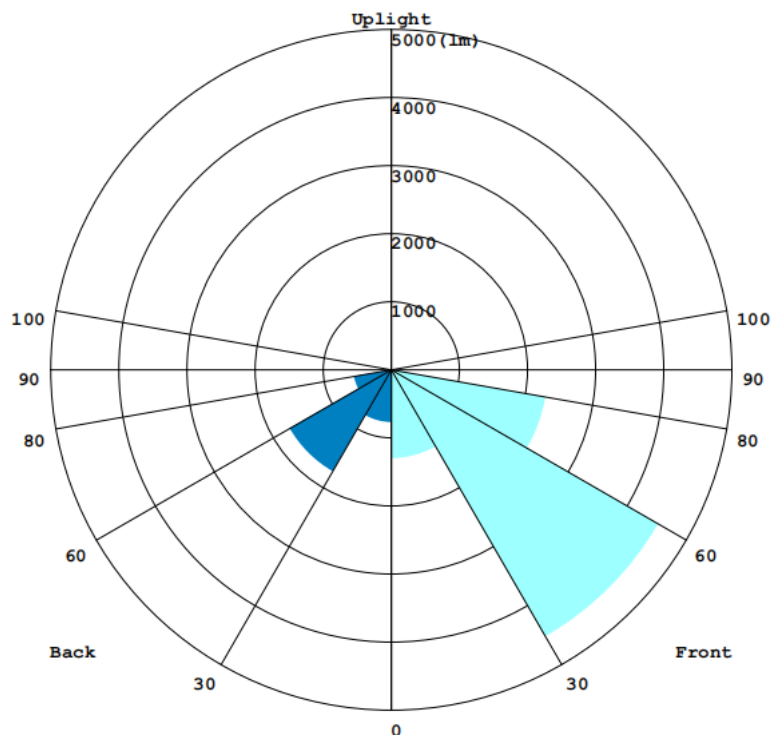
## ISOCANDELA DIAGRAM



## COEFFICIENT OF UTILIZATION CURVE AND ISOLUX DIAGRAM



## LCS REPORT



IESNA Luminaire Flux Distribution Table:

Zone	Lumens	Luminaire %
FL - Front-Low (0-30)	1300.4	11.5
FM - Front-Medium (30-60)	4524.4	39.9
FH - Front-High (60-80)	2300.3	20.3
FVH - Front-Very High (80-90)	163.65	1.4
Total Forward Light	8288.7	73.1

BL - Back-Low (0-30)	768.56	6.8
BM - Back-Medium (30-60)	1721.9	15.2
BH - Back-High (60-80)	558.02	4.9
BVH - Back-Very High (80-90)	8.803	0.1
Total Back Light	3057.3	26.9

UL - Uplight-Low (90-100)	0	0.0
UH - Uplight-High (100-180)	0	0.0
Total Up Light	0	0.0

BUG (Back, Up, Glare) Rating	B2-U0-G2
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Zone	Downward Lumens	Upward Lumens	Total Lumens
House Side	3057.3	0	3057.3
Street Side	8288.7	0	8288.7

**Photo**



**Overview**



**Back-side**





LED Driver + SPD



Optical lens





**LED module**

United States Department of Commerce  
National Institute of Standards and Technology



## Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 201063-0

**TUV Rheinland (Shanghai) Co., Ltd**  
Jing'An District, Shanghai  
China

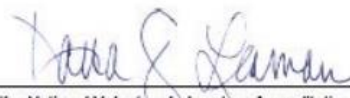
*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,  
listed on the Scope of Accreditation, for:*

### Energy Efficient Lighting Products

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.  
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality  
management system (refer to joint ISO-ILAC-IAF Communiqué dated January 2009).*

2020-06-09 through 2021-06-30  
Effective Dates



  
For the National Voluntary Laboratory Accreditation Program