




Prüfbericht Test report		Auftragsnr. / order no.: 244159812 Berichtsnr. / report no.: 50290784 001	
Auftraggeber client:	NISKO ELECTRICITY & ELECTRONICS LTD. 41 HAMAAYAN MODI'IN, Israel.	Auftragsdatum / date of order:	09.09.2019
		AG-Referenz-Nr. / clientreference no.:	-
Inhalt des Auftrags content of order:		Electrical and Photometric Measurement to LM-79-08	
Prüfgrundlagen test specifications:		IES LM-79-08	
Prüfgegenstand test item:		LED Street Light	
		EAN-Nr. / no.: N/A	
Bezeichnung identification:	EL-SL18MA-80WClass II TYPE II 3000K		
Eingang Prüfgegenstand receipt of test item:	09.09.2019		
Prüfgegenstands-Nr. test item no.:	A000973937-001		
Prüfzeitraum und -ort period of test and location:	09.09.2019-10.09.2019, Shanghai Xingshang Photoelectric technologyCo.,Ltd		
Prüflaboratorium testing laboratory:	TÜV Rheinland (Shanghai) Co., Ltd.		
Prüfergebnis test result ^{*)} :	N/A		
Sonstiges / other aspects:		<i>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.</i>	
geprüft / tested by:		kontrolliert / reviewed by:	
02.12.2019 Fernando Dai / PE 		02.12.2019 Jimmy Wang / Reviewer 	
Datum Date	Name/Stellung Name/Position	Unterschrift Signature	Datum Date
<p>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. 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>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. 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

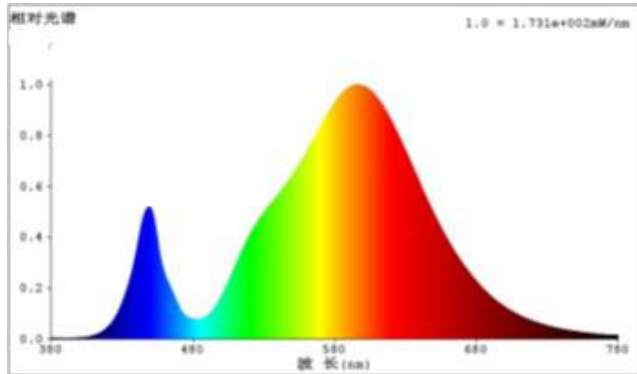
Model name	Sample number	Rated voltage, frequency (V, Hz)	Nominal CCT (K)	Rated Wattage (W)	Type of LED Chip
EL-SL18MA-80WClass II TYPE II 3000K	A000973937-001	200-240Vac, 50/60Hz	3000K	80W	LUMILEDS LUXEON 5050- L15030705006 00000 18S2P

Prüfbericht Nr. / Test report no. 50290784 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- γ 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

Measured Results	
	EL-SL18MA-80WClass II TYPE II 3000K
Total luminous flux (lm)	10831
Input wattage (W)	78.18
Input current (A)	0.3602
Frequency (Hz)	50
Power factor	0.9861
Efficacy (Lm/W)	138.54
CCT (K)	2970
Chromaticity x	0.4387
Chromaticity y	0.4039
Chromaticity u'	0.2518
Chromaticity v'	0.5216
CRI	72.0
R9	0
Du'v' (Max.)	0.000606
THDI(%)	5.787
LCS BUG Rating	B2-U0-G2, Full cut-off, G6

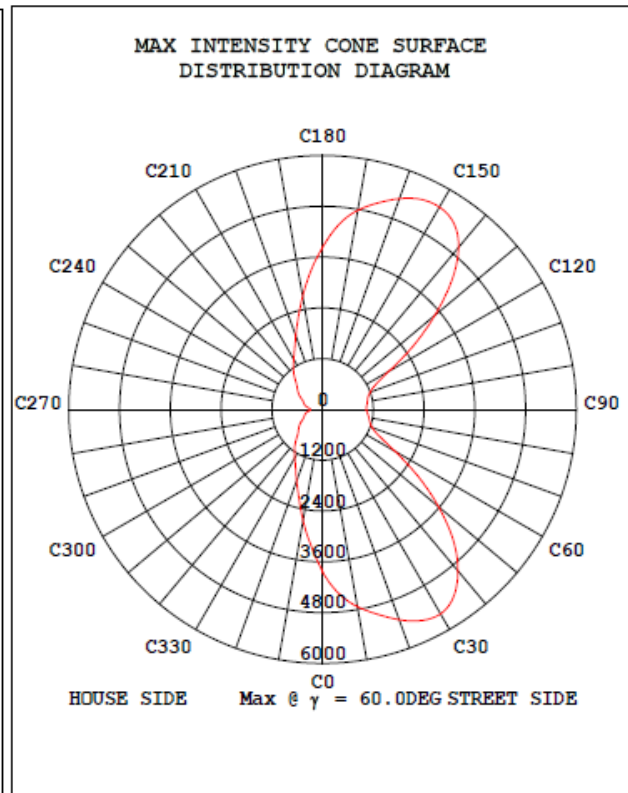
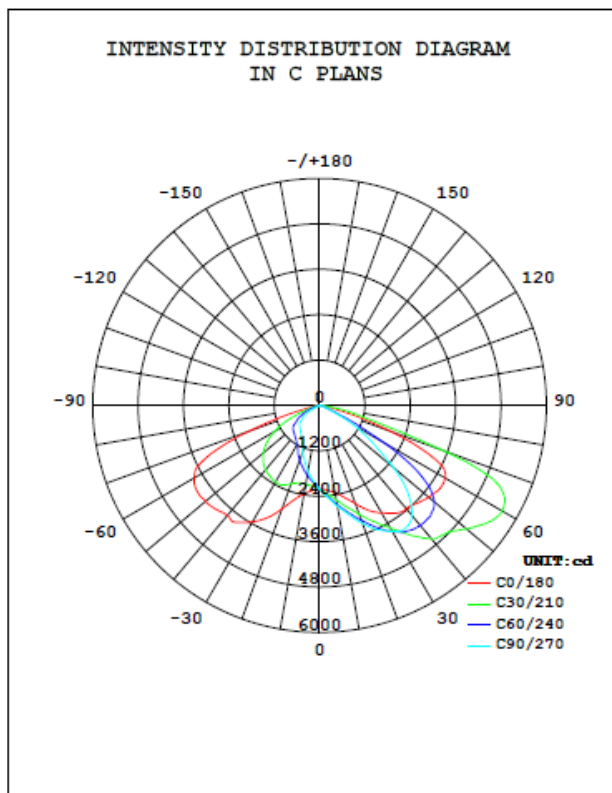
-The following in this page is blank-

Spectral power distribution: (Clause 10 of LM-79)
EL-SL18MA-80WClass II TYPE II 3000K

Dominant WL: 583.1nm
Peak WL: 595.0nm
Luminous Intensity Distribution, Ambient temperature: 25°C (Clause 10 of LM-79)

Description	Data
Model	EL-SL18MA-80WClass II TYPE II 3000K
Test voltage (V)	220VAC
Test current (A)	0.3602
Test wattage (W)	78.18
Frequency (Hz)	50
Power factor	0.9864
Central luminous intensity (cd)	2213
Max. luminous intensity	5575 (C=300, Gamma=60)

For the distribution curve see next page.
-The following in this page is blank-

DATA OF LAMP		PHOTOMETRIC DATA Eff: 138.54 lm/W			
MODEL	EL-SL18MA-80W	I _{max} (cd)	5575	η street_up (%)	0.0
NOMINAL POWER (W)	78.18	LOR (%)	100.0	η street_down (%)	70.5
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	10831	η house_up (%)	0.0
NOMINAL FLUX (lm)	10831.1	MAXIMUM @ (C, γ)	300, 60.0	η house_down (%)	29.5
LAMPS INSIDE	1	η up (%)	0.0	76 FLASHAREA (m2)	0.05000
TEST VOLTAGE (V)	220	η down (%)	100.0	SLI	20.620



Prüfbericht Nr. / Test report no. 50290784 001

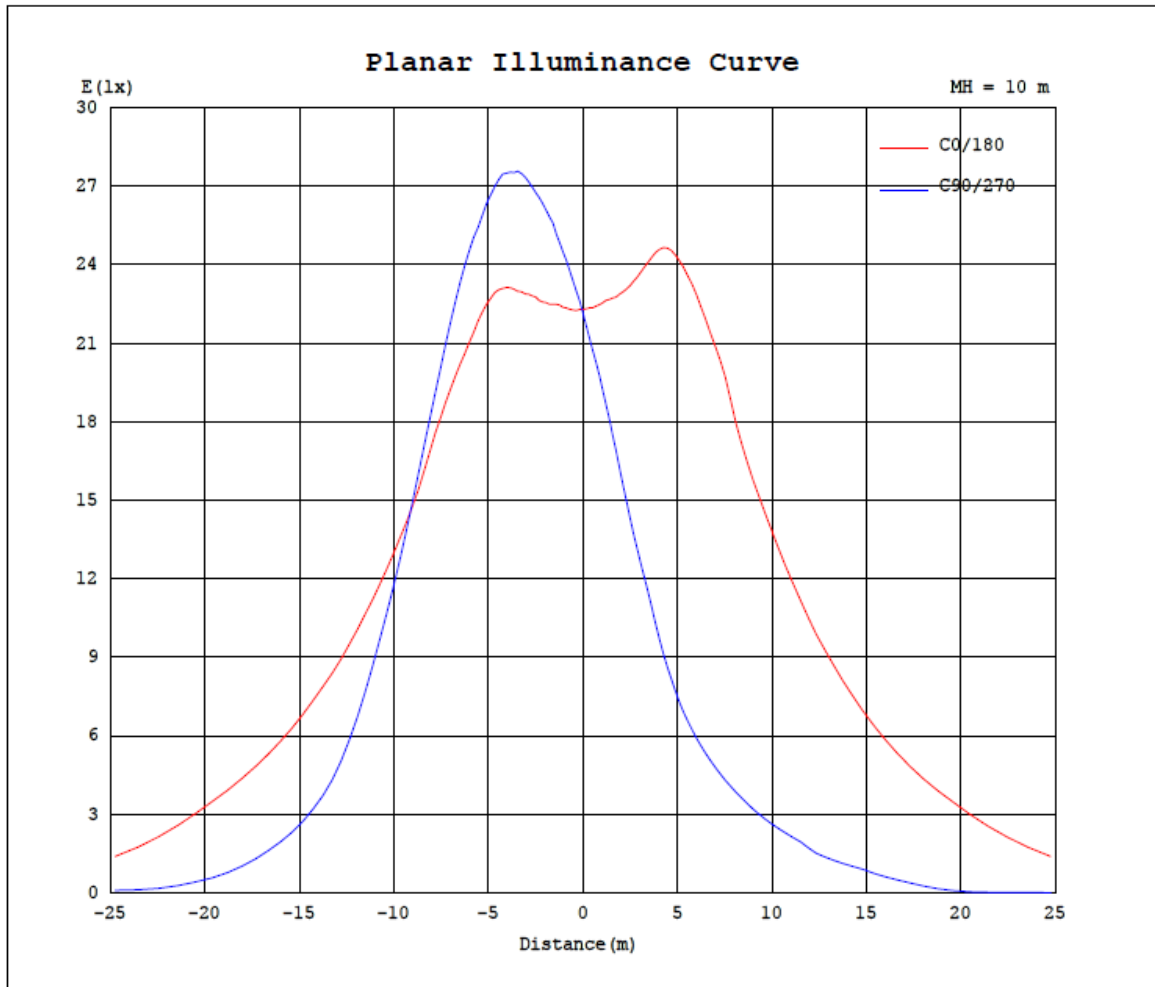
Zonal Lumen Summary and Percentages

Zone	Lumens (lm)	% Luminaire (%)
0-30	2142	19.8%
0-60	8665	80.0%
0-90	10831	100%
60-90	2166	20.0%
0-180	4607.52	100.00%

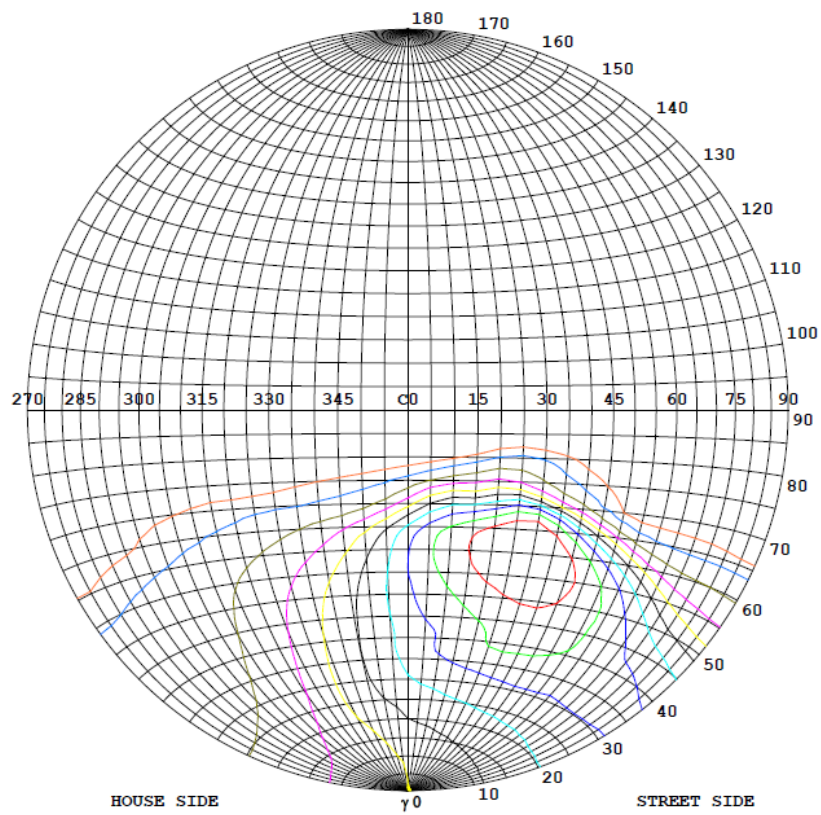
Luminous Intensity Distribution Data

Tool_View EL-SL 18-80W 02degree_ISSA2002.IES																																																					
Keywords											Candela											20											30																				
Horizontal Angles											Multiplier=1											Max Cd																															
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	360																
0	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54	2212.54														
1	2259.39	2258.12	2257.33	2255.02	2257.72	2255.23	2247.63	2253.44	2249.96	2247.80	2236.69	2240.26	2236.71	2230.03	2229.50	2220.46	2221.07	2215.94	2212.54	2211.99	2216.45	2213.70	2206.48	2205.63	2198.53	2197.22	2258.69	2203.73	2202.60	2259.36	2201.74	2205.85	2259.60	2202.57	2206.99	2208.74	2189.58	2197.3															
2	2345.57	2350.18	2350.96	2342.14	2342.44	2340.55	2338.75	2335.18	2325.13	2324.95	2307.66	2308.11	2291.34	2283.75	2282.46	2263.78	2265.42	2228.58	2226.86	2221.97	2206.48	2193.38	2183.56	2176.5	2352.98	2302.79	2301.67	2352.98	2302.79	2301.67	2352.98	2302.79	2301.67	2352.98	2302.79	2301.67	2352.98	2302.79	2301.67														
3	2392.06	2399.79	2397.23	2396.87	2394.84	2393.43	2387.05	2381.18	2365.37	2363.37	2346.71	2348.22	2336.12	2327.32	2312.92	2306.40	2296.86	2290.27	2258.22	2242.29	2233.10	2206.24	2192.32	2178.60	2170.8	2400.00	2349.81	2348.70	2400.00	2349.81	2348.70	2400.00	2349.81	2348.70	2400.00	2349.81	2348.70	2400.00	2349.81	2348.70													
4	2441.44	2444.01	2441.57	2435.97	2433.93	2433.96	2416.94	2432.32	2406.24	2403.19	2388.74	2394.40	2382.51	2370.01	2358.52	2348.01	2336.58	2331.25	2297.77	2283.13	2266.75	2245.25	2212.27	2196.10	2177.7	2450.00	2399.81	2398.70	2450.00	2399.81	2398.70	2450.00	2399.81	2398.70	2450.00	2399.81	2398.70	2450.00	2399.81	2398.70													
5	2485.48	2492.92	2495.18	2479.58	2486.70	2479.84	2461.92	2476.90	2448.89	2446.77	2412.99	2389.72	2379.01	2365.46	2339.05	2332.21	2304.76	2275.65	2255.07	2219.26	2199.19	2180.52	2158.1	2495.98	2445.79	2444.68	2495.98	2445.79	2444.68	2495.98	2445.79	2444.68	2495.98	2445.79	2444.68	2495.98	2445.79	2444.68	2495.98	2445.79	2444.68												
6	2535.98	2543.96	2547.16	2539.08	2536.05	2527.75	2511.54	2521.98	2495.91	2491.60	2470.58	2450.99	2429.89	2418.17	2400.77	2367.45	2345.54	2332.75	2298.63	2267.88	2229.53	2206.62	2182.52	2158.1	2540.98	2490.79	2489.68	2540.98	2490.79	2489.68	2540.98	2490.79	2489.68	2540.98	2490.79	2489.68	2540.98	2490.79	2489.68	2540.98	2490.79	2489.68											
7	2588.89	2594.61	2597.16	2587.91	2582.05	2579.15	2565.51	2572.89	2549.56	2540.56	2521.91	2494.41	2471.44	2455.00	2428.52	2399.53	2368.03	2332.71	2318.01	2285.94	2260.95	2234.11	2187.53	2158.1	2594.98	2544.79	2543.68	2594.98	2544.79	2543.68	2594.98	2544.79	2543.68	2594.98	2544.79	2543.68	2594.98	2544.79	2543.68	2594.98	2544.79	2543.68											
8	2652.39	2650.53	2652.02	2648.77	2643.34	2629.91	2617.62	2621.20	2597.95	2593.67	2562.27	2532.66	2514.65	2497.80	2469.93	2437.65	2401.49	2380.77	2342.63	2305.67	2266.25	2218.81	2192.13	2158.1	2602.39	2552.20	2551.09	2602.39	2552.20	2551.09	2602.39	2552.20	2551.09	2602.39	2552.20	2551.09	2602.39	2552.20	2551.09	2602.39	2552.20	2551.09											
9	2700.14	2701.08	2688.22	2701.54	2693.18	2687.90	2670.78	2668.16	2644.93	2636.81	2606.81	2586.11	2562.84	2539.15	2515.27	2476.25	2430.48	2412.72	2366.12	2329.81	2275.60	2238.97	2158.1	2652.39	2602.20	2601.09	2652.39	2602.20	2601.09	2652.39	2602.20	2601.09	2652.39	2602.20	2601.09	2652.39	2602.20	2601.09	2652.39	2602.20	2601.09	2652.39	2602.20	2601.09									
10	2753.73	2760.08	2760.08	2761.20	2754.93	2747.32	2737.28	2719.01	2726.43	2695.11	2690.13	2658.01	2638.37	2610.42	2584.08	2554.08	2514.22	2477.48	2449.63	2401.51	2360.29	2288.91	2210.34	2158.1	2703.73	2653.54	2652.43	2703.73	2653.54	2652.43	2703.73	2653.54	2652.43	2703.73	2653.54	2652.43	2703.73	2653.54	2652.43	2703.73	2653.54	2652.43	2703.73	2653.54	2652.43								
11	2809.49	2821.34	2825.69	2820.90	2804.99	2792.17	2778.71	2782.85	2759.89	2743.31	2708.24	2687.56	2661.09	2635.86	2602.42	2560.59	2522.87	2493.38	2445.78	2405.78	2339.93	2268.53	2188.1	2753.73	2703.54	2702.43	2753.73	2703.54	2702.43	2753.73	2703.54	2702.43	2753.73	2703.54	2702.43	2753.73	2703.54	2702.43	2753.73	2703.54	2702.43	2753.73	2703.54	2702.43									
12	2867.37	2880.69	2881.95	2878.10	2858.03	2844.32	2834.41	2832.70	2804.04	2799.34	2761.98	2739.49	2724.26	2682.91	2659.74	2614.32	2570.61	2540.46	2476.25	2432.83	2363.64	2288.18	2188.1	2818.1	2767.99	2766.88	2818.1	2767.99	2766.88	2818.1	2767.99	2766.88	2818.1	2767.99	2766.88	2818.1	2767.99	2766.88	2818.1	2767.99	2766.88	2818.1	2767.99	2766.88									
13	2924.43	2942.32	2943.93	2939.33	2921.01	2903.77	2889.13	2890.76	2862.33	2853.41	2818.99	2796.23	2779.95	2738.61	2711.21	2665.32	2623.27	2590.14	2521.10	2432.98	2356.75	2261.72	2158.1	2868.1	2817.99	2816.88	2868.1	2817.99	2816.88	2868.1	2817.99	2816.88	2868.1	2817.99	2816.88	2868.1	2817.99	2816.88	2868.1	2817.99	2816.88	2868.1	2817.99	2816.88									
14	2982.50	3005.41	3008.75	2996.60	2976.43	2958.27	2942.49	2948.27	2919.43	2911.52	2878.98	2856.24	2835.92	2797.57	2772.43	2728.36	2687.95	2651.15	2573.98	2474.86	2388.63	2283.60	2158.1	2918.1	2867.99	2866.88	2918.1	2867.99	2866.88	2918.1	2867.99	2866.88	2918.1	2867.99	2866.88	2918.1	2867.99	2866.88	2918.1	2867.99	2866.88	2918.1	2867.99	2866.88									
15	3053.72	3063.17	3062.58	3056.75	3048.73	3034.15	3011.79	3009.08	2982.69	2975.22	2951.04	2915.90	2908.70	2865.50	2840.09	2789.17	2746.59	2712.32	2628.14	2566.20	2473.77	2378.02	2263.00	2123.0	3003.73	2953.54	2952.43	3003.73	2953.54	2952.43	3003.73	2953.54	2952.43	3003.73	2953.54	2952.43	3003.73	2953.54	2952.43	3003.73	2953.54	2952.43	3003.73	2953.54	2952.43								
16	3122.62	3126.33	3126.48	3115.35	3104.75	3089.42	3074.46	3061.10	3036.37	3028.99	2998.99	2970.45	2952.56	2910.91	2880.52	2851.96	2772.32	2691.24	2626.99	2527.61	2412.72	2338.72	2233.0	3053.73	3003.54	3002.43	3053.73	3003.54	3002.43	3053.73	3003.54	3002.43	3053.73	3003.54	3002.43	3053.73	3003.54	3002.43	3053.73	3003.54	3002.43	3053.73	3003.54	3002.43									
17	3189.72	3198.12	3198.60	3185.41	3171.45	3159.97	3136.76	3131.74	3104.28	3100.94	3075.36	3063.84	3035.55	3006.74	2977.11	2911.53	2866.09	2837.91	2768.19	2684.19	2605.16	2438.02	2263.0	3103.73	3053.54	3052.43	3103.73	3053.54	3052.43	3103.73	3053.54	3052.43	3103.73	3053.54	3052.43	3103.73	3053.54	3052.43	3103.73	3053.54	3052.43	3103.73	3053.54	3052.43									
18	3256.69	3257.53	3256.62	3246.77	3231.63	3226.09	3204.29	3198.20	3170.96	3168.63	3143.58	3123.77	3110.38	3086.04	3043.36	2988.59	2960.45	2912.57	2828.53	2745.83	2658.10	2490.02	2315.0	3153.73	3103.54	3102.43	3153.73	3103.54	3102.43	3153.73	3103.54	3102.43	3153.73	3103.54	3102.43	3153.73	3103.54	3102.43	3153.73	3103.54	3102.43	3153.73	3103.54	3102.43									
19	3311.43	3324.83	3323.86	3322.82	3310.00	3293.58	3277.00	3267.89	3241.72	3234.43	3219.95	3200.18	3186.91	3160.63	3128.29	3066.40	3036.30	2985.36	2904.75	2825.69	2709.68	2636.45	2478.92	2303.0	3203.73	3153.54	3152.43	3203.73	3153.54	3152.43	3203.73	3153.54	3152.43	3203.73	3153.54	3152.43	3203.73	3153.54	3152.43	3203.73	3153.54	3152.43	3203.73	3153.54	3152.43								
20	3379.08	3387.17	3386.62	3393.36	3373.43	3361.01	3342.40	3332.78	3319.01	3301.45	3285.16	3271.08	3246.30	3210.36	3168.04	3118.20	3044.16	2988.94	2908.60	2830.00	2700.62	2625.85	2453.00	2283.0	3253.73	3203.54	3202.43	3253.73	3203.54	3202.43	3253.73	3203.54	3202.43	3253.73	3203.54	3202.43	3253.73	3203.54	3202.43	3253.73	3203.54	3202.43	3253.73	3203.54	3202.43								
21	3444.84	3451.41	3448.15	3443.25	3441.63	3439.45	3408.62	3407.35	3401.64	3384.82	3365.17	3342.46	3334.86	3302.33	3276.89	3220.48	3182.95	3129.69	3061.69	2976.54	2842.40	2706.07	2429.4	3303.73	3253.54	3252.43	3303.73	3253.54	3252.43	3303.73	3253.54	3252.43	3303.73	3253.54	3252.43	3303.73	3253.54	3252.43	3303.73	3253.54	3252.43	3303.73	3253.54	3252.43									
22	3515.58	3510.25	3514.07	3513.29	3510.63	3507.18	3479.21	3473.21	3460.78	3456.77	3438.58	3424.84	3404.79	3382.28	3346.81	3293.35	3241.31	3199.37	3137.46	3048.67	2908.53	2787.46	2632.96	2466.9	3353.73	3303.54	3302.43	3353.73	3303.54	3302.43	3353.73	3303.54	3302.43	3353.73	3303.54	3302.43	3353.73	3303.54	3302.43	3353.73	3												

Tool_View EL-SL 18-80W Odegree_JESNA2002.IES																																						
Keywords										Candela										20										30								
Vertical Angles		Horizontal Angles										Multiplier=1		Max. Cx																								
		225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	33														
43	1132.21	1273.94	1455.21	1680.47	1943.77	2217.24	2499.34	2763.60	3048.69	3323.30	3598.45	3842.27	4004.97	4170.00	4366.16	4549.25	4706.34	4801.71	4778.10	4671.36	4500.98	4328.40	4140.90	4009.8														
44	1120.44	1262.24	1445.21	1664.42	1924.72	2202.92	2486.64	2754.30	3041.63	3321.37	3597.41	3880.80	4054.03	4221.71	4410.18	4594.25	4738.89	4820.88	4818.78	4708.96	4525.17	4325.98	4141.98	3973.9														
45	1109.12	1249.60	1426.42	1647.86	1903.30	2184.73	2464.04	2734.66	3021.73	3304.03	3578.73	3824.03	4102.70	4279.46	4462.57	4625.58	4765.87	4848.66	4848.36	4745.69	4543.37	4326.72	4142.97	3954.4														
46	1097.68	1238.07	1410.41	1626.42	1880.00	2164.86	2445.42	2716.28	2996.07	3276.34	3556.07	3825.34	4067.56	4140.79	4333.61	4530.28	4687.32	4788.95	4870.08	4864.91	4762.16	4546.44	4326.04	3971.7														
47	1086.72	1225.49	1394.47	1604.41	1859.19	2139.16	2426.26	2700.27	2979.67	3262.20	3540.73	3800.98	4102.40	4385.43	4583.00	4740.87	4870.82	4905.42	4878.36	4781.73	4566.77	4331.93	4089.39	3854.8														
48	1076.31	1212.06	1379.30	1591.81	1831.47	2111.47	2387.95	2716.64	2995.89	3369.61	3625.49	3739.47	4243.00	4442.80	4640.50	4809.70	4929.72	4967.52	4940.05	4805.29	4627.17	4398.87	4063.59	3789.3														
49	1061.65	1196.36	1361.38	1559.88	1808.95	2084.73	2312.93	2703.39	3043.95	3395.16	3753.03	4079.38	4293.49	4495.40	4700.30	4878.21	5001.57	5025.80	4983.33	4826.82	4604.22	4322.51	4024.30	3696.8														
50	1046.92	1182.19	1346.63	1537.21	1771.82	2055.28	2360.54	2676.14	3034.82	3402.32	3770.95	4108.69	4350.89	4555.11	4785.90	4957.34	5074.81	5082.93	4988.33	4830.96	4608.95	4381.01	3968.19	3605.4														
51	1030.58	1170.54	1320.47	1513.47	1740.01	2017.50	2330.43	2653.93	3011.92	3393.96	3791.91	4145.18	4396.52	4608.44	4838.99	5026.49	5143.81	5141.43	5015.95	4847.60	4610.17	4356.05	3876.25	3472.8														
52	1015.10	1151.72	1301.44	1496.77	1719.08	1979.07	2289.20	2627.59	3001.76	3397.63	3803.62	4183.20	4445.21	4674.44	4898.00	5092.79	5209.20	5193.99	5059.98	4855.97	4585.19	4285.06	3778.90	3352.2														
53	998.51	1131.62	1280.37	1458.09	1666.70	1936.16	2249.69	2591.42	2976.89	3391.71	3824.34	4222.77	4485.96	4733.15	4971.67	5172.32	5252.38	5252.49	5130.00	4870.81	4547.47	4175.16	3668.19	3125.5														
54	979.39	1105.07	1250.66	1422.74	1626.22	1888.89	2209.29	2560.45	2950.66	3365.42	3805.46	4254.06	4531.55	4794.32	5043.93	5235.57	5348.20	5304.20	5153.91	4868.93	4516.08	4078.97	3516.75	2860.6														
55	950.45	1079.47	1221.00	1386.32	1583.79	1841.03	2145.92	2505.14	2922.68	3370.74	3866.27	4284.66	4580.75	4843.12	5093.23	5295.26	5408.80	5349.34	5151.99	4866.63	4454.04	3956.63	3342.53	2790.5														
56	903.6	1053.62	1196.27	1345.17	1536.72	1788.69	2084.25	2453.28	2885.97	3352.30	3871.21	4309.02	4626.05	4902.51	5154.99	5351.42	5455.13	5386.01	5165.72	4814.33	4364.11	3783.82	3117.87	2540.5														
57	859.29	1011.52	1158.06	1304.12	1487.80	1732.48	2024.54	2399.09	2832.68	3328.60	3867.92	4333.02	4636.94	4943.65	5216.66	5411.34	5495.16	5418.95	5154.52	4795.07	4235.18	3694.56	2897.04	2201.4														
58	803.48	955.78	1101.16	1259.50	1436.16	1664.53	1954.29	2333.22	2788.39	3300.43	3867.44	4353.80	4701.21	4966.71	5239.98	5495.38	5572.23	5431.52	5167.93	4664.13	4061.50	3341.42	2618.19	2097.6														
59	774.20	899.32	1063.44	1211.65	1377.42	1592.59	1884.49	2265.81	2736.39	3264.27	3854.90	4365.89	4701.41	4989.89	5262.86	5484.37	5541.87	5427.51	5083.93	4541.41	3838.78	3047.42	2305.07	1790.7														
60	746.41	837.24	997.66	1160.93	1342.47	1516.10	1804.60	2170.39	2659.52	3218.38	3827.72	4359.93	4740.15	5007.85	5286.06	5503.37	5547.98	5399.45	4974.43	4366.76	3576.73	2753.79	1970.40	1466.8														
61	719.13	802.91	959.26	1125.13	1300.37	1440.37	1716.50	2074.97	2569.39	3160.18	3808.91	4251.62	4735.48	5012.09	5233.33	5506.29	5562.47	5345.96	4862.97	4113.97	3260.73	2396.28	1614.81	1236.2														
62	695.81	768.19	961.70	1095.31	1190.98	1365.80	1625.00	1939.44	2468.39	3093.18	3760.32	4372.33	4724.36	4997.78	5257.23	5501.35	5541.04	5299.14	4695.22	3852.82	2915.22	2000.52	1306.30	944.7														
63	621.44	730.21	814.10	955.68	1112.13	1286.26	1523.95	1867.20	2396.05	3008.30	3697.67	4297.97	4636.95	4971.14	5246.33	5469.43	5505.00	5170.92	4479.15	3513.33	2533.90	1593.24	1075.92	854.2														
64	559.69	684.30	768.81	874.91	1049.67	1205.13	1419.94	1751.34	2137.03	2882.40	3574.00	4215.74	4638.94	4920.92	5178.88	5411.63	5431.61	5030.46	4194.37	3115.56	2108.92	1195.39	849.18	663.7														
65	526.06	605.22	723.01	801.23	958.66	1119.31	1314.13	1601.08	2029.10	2683.94	3386.81	4049.97	4470.05	4762.52	5073.78	5336.31	5329.15	4828.01	3833.56	2639.31	1655.11	940.77	621.44	521.8														
66	492.35	546.75	671.81	743.24	863.34	1030.04	1180.54	1410.43	1823.71	2421.51	3067.19	3649.90	4270.85	4538.00	4861.04	5185.61	5198.42	4658.52	3680.75	2234.46	1181.33	687.37	455.10	318.9														
67	457.80	507.24	571.39	685.77	764.08	913.61	1035.90	1219.88	1584.46	2159.09	2803.93	3631.33	4037.32	4285.73	4591.34	4961.59	4977.01	4155.42	2873.75	1727.52	901.95	443.97	345.32	214.2														
68	383.68	468.01	512.14	626.47	679.71	786.91	872.22	1036.16	1317.71	1896.42	2632.03	3388.94	3867.68	4003.02	4289.04	4684.82	4620.60	3641.60	2340.37	1240.08	625.91	309.61	274.52	31.0														
69	346.87	416.26	465.70	516.48	549.42	660.94	752.81	871.06	1115.56	1616.78	2314.98	3104.48	3668.32	3663.56	3938.34	4350.12	4134.28	2988.43	1813.08	973.33	349.87	247.52	228.04	208.1														
70	314.61	341.79	415.65	435.94	498.73	536.25	613.77	726.93	916.54	1422.03	1949.09	2794.85	3562.43	3297.45	3388.80	3957.04	3521.07	2285.92	1338.35	710.15	270.16	215.88	194.87	180.1														
71	271.32	305.61	340.74	367.22	410.51	448.80	542.17	625.89	779.78	1110.52	1701.30	2470.12	2923.65	2904.45	3282.40	3495.99	3220.15	1728.28	1101.08	446.96	246.45	194.64	168.66	160.9														
72	226.35	267.52	271.85	302.35	320.52	399.48	470.39	541.52	667.20	919.44	1403.06	2149.45	2633.64	2503.46	2862.42	2949.19	2826.19	1354.00	870.30	346.57	226.81	176.50	151.85	143.7														
73	194.20	207.75	218.97	240.13	277.08	340.57	386.11	462.82	567.08	754.21	1175.14	1833.37	2180.10	2130.28	2471.38	2408.94	1574.87	1110.18	639.61	342.52	208.38	155.21	133.23	128.1														
74	156.47	161.03	173.37	199.52	237.69	276.21	331.59	393.96	492.36	674.30	617.43	965.44	1483.41	1811.91	1838.66	2119.28	1506.10	1426.78	926.38	537.83	308.75	187.33	136.98	113.7														
75	116.05	122.32	141.70	170.39	193.77	227.53	274.89	339.47	502.12	750.08	1274.03	1442.46	1546.92	1807.16	1840.52	1910.50	1592.87	1457.36	271.68	161.83	122.06	108.44	100.4	100.4														
76	93.86	96.48	120.88	145.98	172.68	227.86	277.86	310.10	396.57	537.74	849.22	1106.78	1278.40	1358.99	1458.93	1423.33	1048.64	887.53	234.19	139.06	105.92	93.11	91.1	91.1														
77	61.37	76.69	95.93	112.18	127.19	152.15	178.10	204.24	244.96	305.46	576.88	844.72	1035.98	1284.48	1199.70	907.88	546.77	328.87	197.54	116.76	90.22	73.99	78.6	78.6														
78	45.30	60.74	74.57	98.86	99.97	115.28	137.57	159.93	189.79	232.37	291.66	414.46	581.87	793.93	1045.80	1016.10	767.12	478.20	280.73	161.31	98.28	76.38	68.1	68.1														



STREETLIGHT ISOCANDELA DIAGRAM

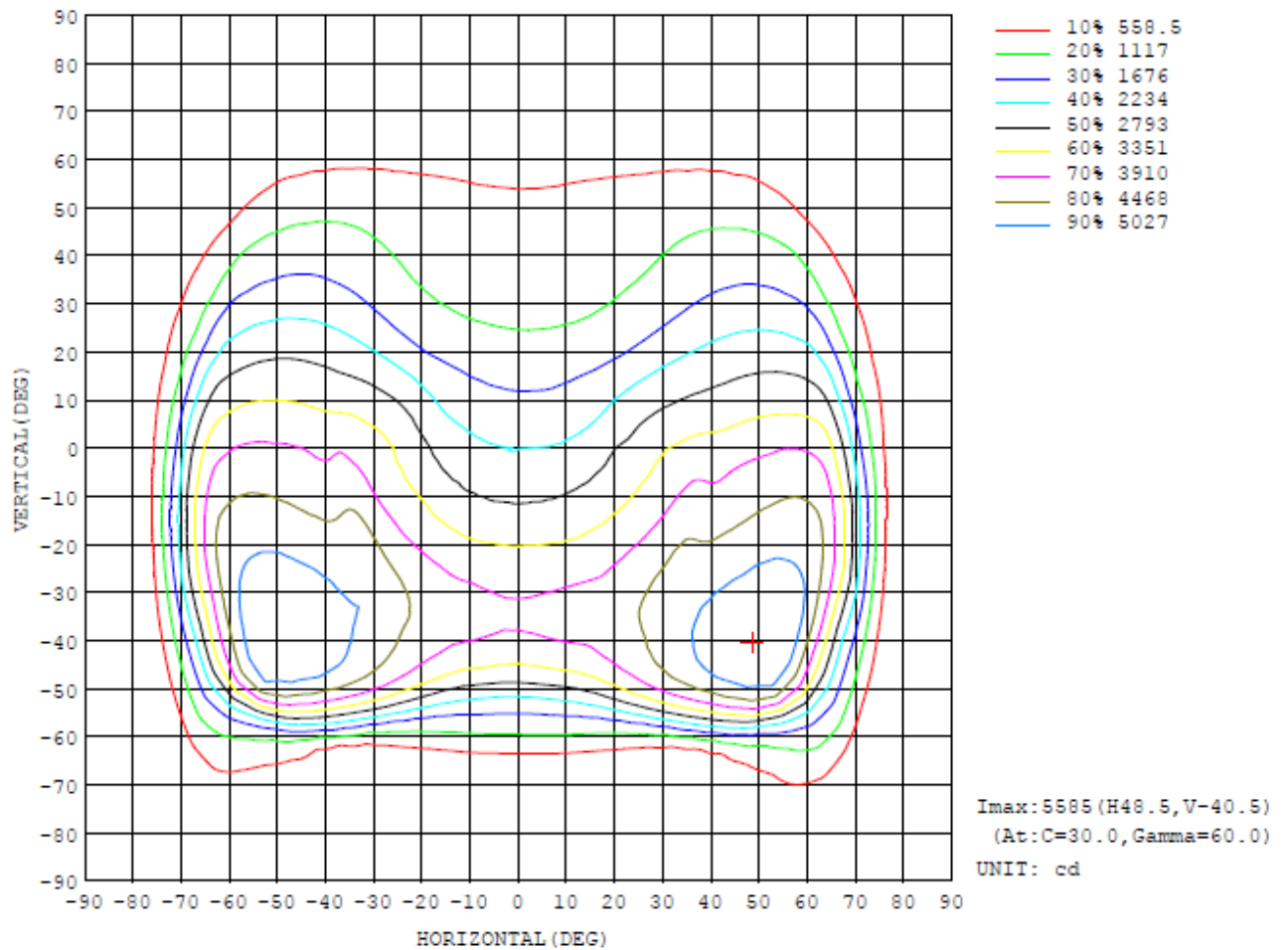


Classification:

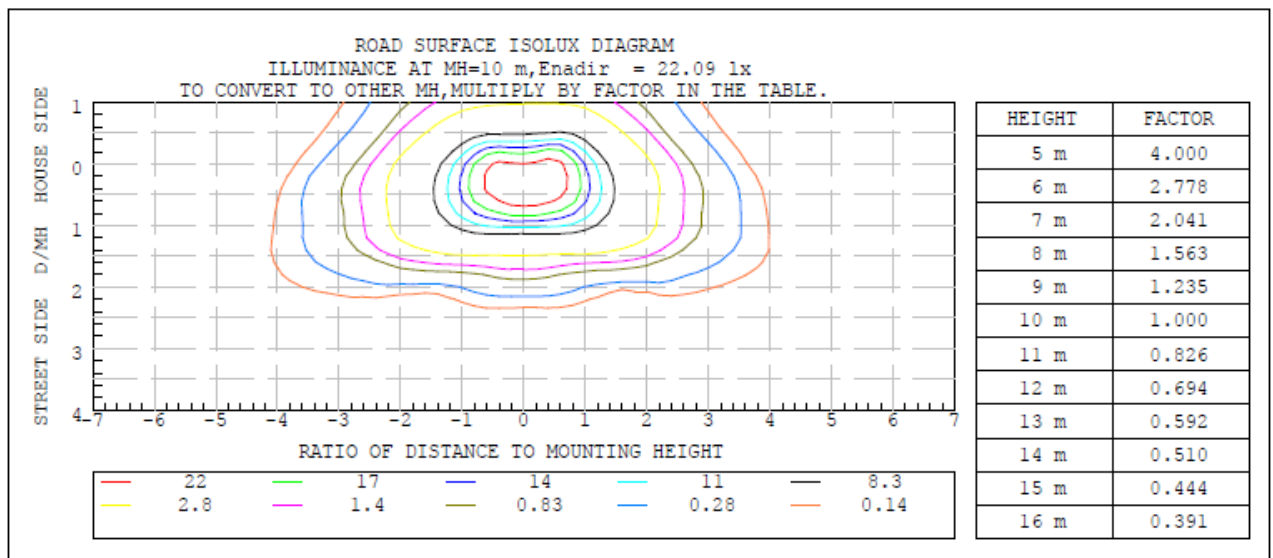
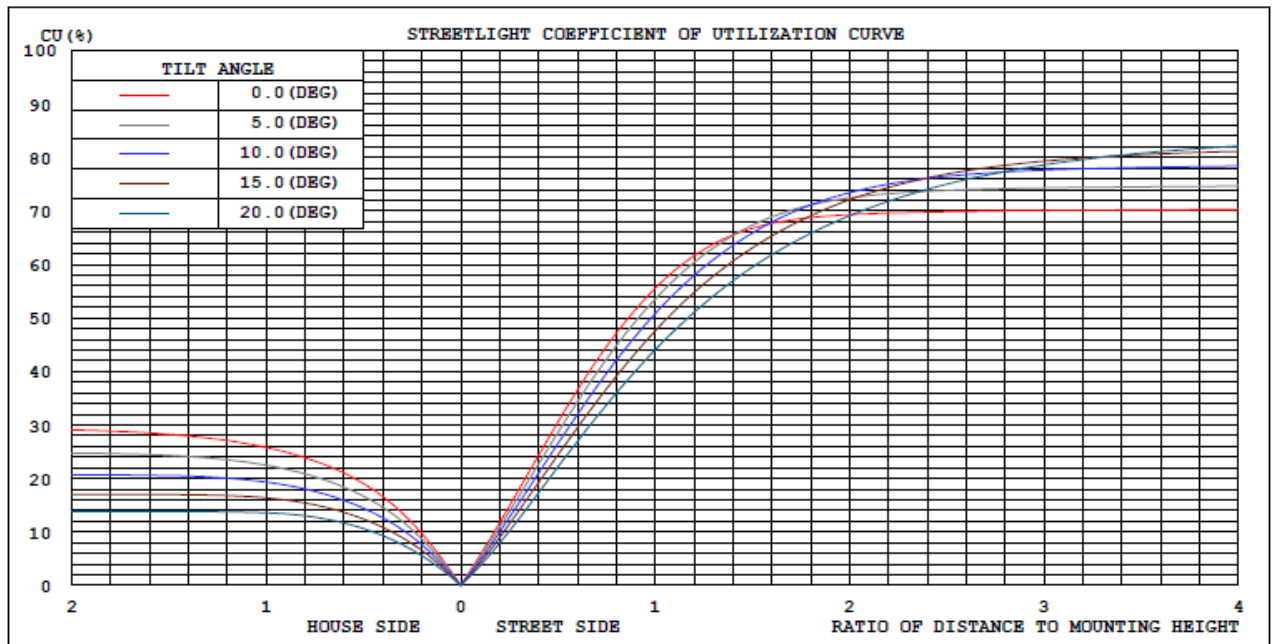
IES:Type II - Short
CIE:Average - Intermediate
IES:Full cut-off
Max.At80:59.82cd/klm
Max.At90:0cd/klm
Max.80-90:59.82cd/klm
NRB 5101:Semi limited[14.1%]

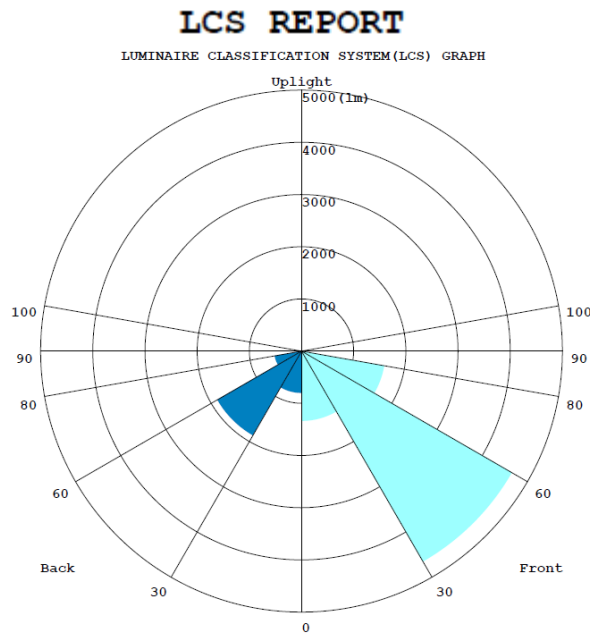
ISOCANDELA DIAGRAM	
UNIT	cd
Imax=100%	5575
90%	5017
80%	4460
70%	3902
60%	3345
50%	2787
40%	2230
30%	1672
20%	1115
10%	557
5%	279

ISOCANDELA DIAGRAM



COEFFICIENT OF UTILIZATION CURVE AND ISOLUX DIAGRAM




IESNA Luminaire Flux Distribution Table:

Zone	Lumens	Luminaire %
FL - Front-Low(0-30)	1338.3	12.4
FM - Front-Medium(30-60)	4657.9	43.0
FH - Front-High(60-80)	1612.7	14.9
FVH - Front-Very High(80-90)	25.736	0.2
Total Forward Light	7634.6	70.5

BL - Back-Low(0-30)	803.58	7.4
BM - Back-Medium(30-60)	1865.1	17.2
BH - Back-High(60-80)	523.51	4.8
BVH - Back-Very High(80-90)	4.2686	0.0
Total Back Light	3196.4	29.5

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
---------------------------	----------

Zone	Downward Lumens	Upward Lumens	Total Lumens
House Side	3196.4	0	3196.4
Street Side	7634.6	0	7634.6

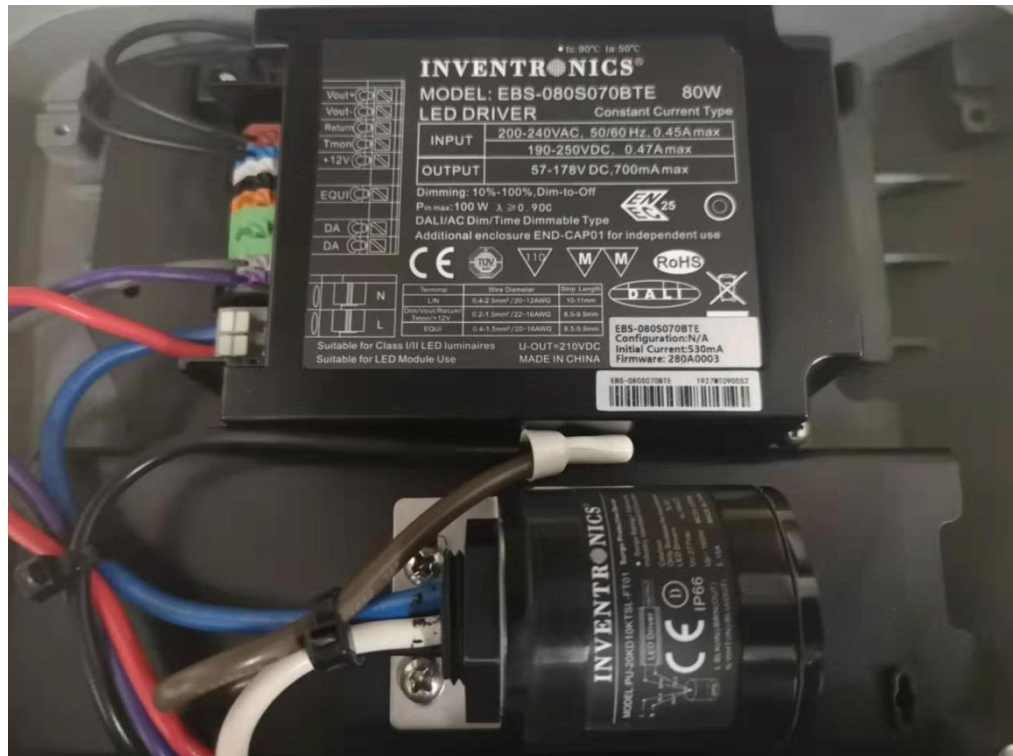
Photo



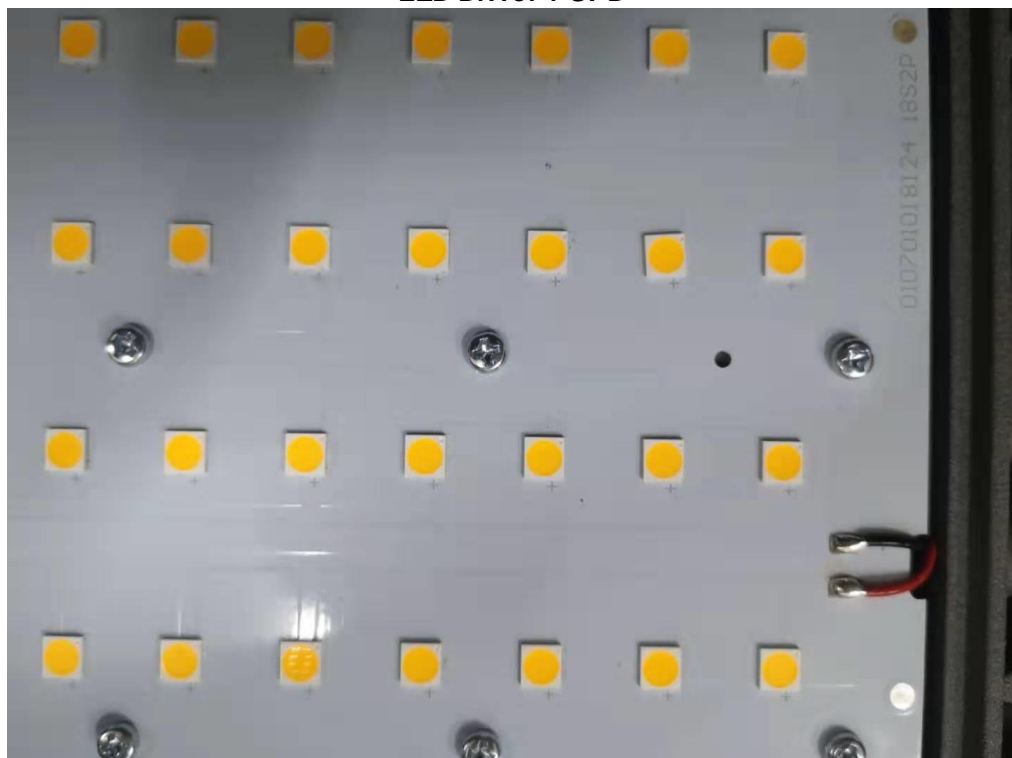
overview



Back-side



LED Driver + SPD



LED module

Prüfbericht Nr. / Test report no. 50290784 001

Certificate Copy of NVLAP

<p>United States Department of Commerce National Institute of Standards and Technology</p> <p>NVLAP®</p> <hr/> <p>Certificate of Accreditation to ISO/IEC 17025:2017</p> <hr/> <p>NVLAP LAB CODE: 201063-0</p> <p>TUV Rheinland (Shanghai) Co., Ltd Jing'An District, Shanghai China</p> <p><i>is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:</i></p> <p>Energy Efficient Lighting Products</p> <p><i>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).</i></p> <table border="0"><tr><td><hr/><p>2019-06-18 through 2020-06-30 Effective Dates</p></td><td></td><td><hr/><p> For the National Voluntary Laboratory Accreditation Program</p></td></tr></table>		<hr/> <p>2019-06-18 through 2020-06-30 Effective Dates</p>		<hr/> <p> For the National Voluntary Laboratory Accreditation Program</p>
<hr/> <p>2019-06-18 through 2020-06-30 Effective Dates</p>		<hr/> <p> For the National Voluntary Laboratory Accreditation Program</p>		

-- End of Report--