Dimming:
PWM/TIME/0-5V/0-10V

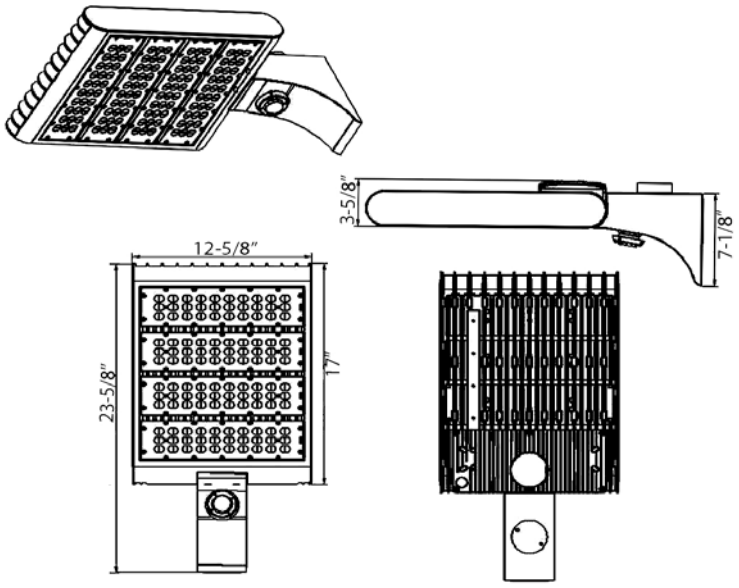
Cat# 71576**A**
220 Watts
Pole Mount

UL/CUL
RoHS
TUV-CE

QPL ID #
PLGE98V0A604

Model： 71576A		
OVERALL LAMP PARAMETERS	Input Voltage	100-277VAC 50/60HZ
	Input Current	1.82A Max
	Input Power	220W
	Power Factor	PF≥ 0.9
	Luminance	27600LM
	Luminous Efficiency	125 LM/W
	CRI	>80
	Beam Angle	Type III 150 x 105°
	Main Structure	Aluminium + PC Lens
LED DRIVER	Output Voltage	36-60VDC
	Output Current	5.3A
	Driver Efficiency	88%
LED	LED Manufacturer	Philips
	LED Type	3030 LED
	LED Quantity	120 PCS
	LED Efficacy	150 LM/W
	Color Temperature	5000K
Photocell	–	Not Included
LIFESPAN & ENVIRONMENT	Lifespan	50,000+ Hrs.
	Warranty	5 Years
	IP Rating	IP65 Wet Locations
	Operating Temperature	-40F - +131F
	Storage Temperature.Humidity	-40℃—+80℃ , 10—90% RH
SAFETY&EMC	Safety Norms	UL1598,UL8750, EN60598, EN61347-2-13, EN62031, EN62471
	Withstand Voltage	I/P-FG: 2121VDC
	Grounding Resistance	≤0.5Ω,OK
	Electromagnetic Compatibility	EN55015, EN61000-2-3, EN61000-3-3, EN61547
OTHERS	Dimension	Pls refer to attached dimension drawing
	Net Weight	KG
	Gross Weight	KG
	Packing Size	master carton: L*W*Hmm
	Q'ty / Carton	1PCS
	Volume	
	EPA Rating	1.68ft^2

Dimension：



LM-79-08 Test Report

For

Morris Products Inc.

53 Carey Rd Queensbury, NY 12804

Outdoor Pole/Arm-mounted Area and Roadway Luminaires

Model name(s): 71564A, 71844, 81845, 71576A, 71855, 71856

Representative (Tested) Model: 71564A

Model Different: All construction and rating are the same, except CCT

Test & Report By:

Charman Chen

Engineer: Charman Chen

Date: Jan.23,2017

Review By:

Tommy Liang

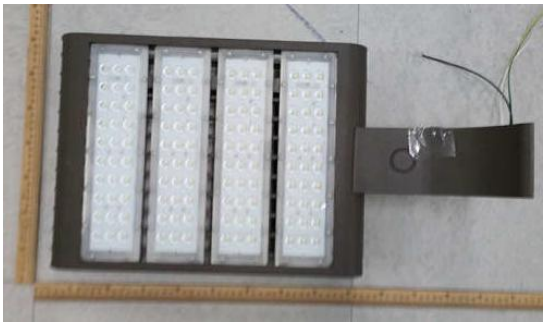
Manager: Tommy Liang

Note: This report does not imply product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

1.1 Product Information:

Organization Name	Morris Products Inc.	
Brand Name	MORRIS	
Model Number	71564A	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	Outdoor Pole/Arm-mounted Area and Roadway Luminaires	
Rated Voltage / Frequency	277-480Vac, 50/60 Hz	
Nominal Power	220W	
Rated Initial Lamp Lumen	--	
Declared CCT	5000K	
LED Manufacturer	Philips Lumileds	
LED Model	L130-xxyy003000W21	
Sample Number	GZE170125-E1(5000K)	
Luminaire Aperture (for downlights)	--	in.
Luminaire Length	--	mm
Luminaires Width	--	mm
Number of Units (modular products)	N/A	s

Photo



1.2 Test Specifications:

Date of Receipt	Jan. 21,2017
Date of Test	Jan. 22,2017
Test item	1. Total Luminous Flux 2. Luminous Distribution Intensity 3. Luminous Efficacy 4. Correlated Color Temperature 5. Color Rendering Index 6. Chromaticity Coordinate 7. Electrical Parameters
Reference Standard	1. IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products 2. ANSI C78.377-2008 Specifications for the Chromaticity of Solid State Lighting Products 3. CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources 4. CIE 15-2004 Technical Report Colorimetry 5. IESNA LM-16-93 Practical Guide to Colorimetry of Light Source 6. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems
Reference Work Instruction	QD25

1.3 Test Methods

1) Photometric and Light Distribution Measurement – Goniophotometer Method:

Photometric parameters were measured using the goniophotometer and software. The ambient temperature shall be maintained at 25 °C ±1 °C, measured at a point not more than 1 m from the sample and at the same height as the sample. The sample was operated at 277 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Luminous flux, luminaire efficacy, zonal lumen were calculated from the software taken at 1 °vertical intervals and 22.5 °horizontal intervals.

2) Chromaticity Measurement – Sphere-Spectroradiometer Method:

Chromaticity parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25 ºC ±1 ºC. The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. The sample was operated at 277 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral power distribution taken at 5 nm intervals over the range of 380 to 780 nm.

3) Electrical Measurements:

Electrical parameters were measured using power meters incorporated in goniophotometer or sphere-spectroradiometer system. The ambient temperature surrounding the sample was maintained at 25 ºC ±1 ºC. The sample was operated at 277 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Voltage, frequency, current, power, power factor and total harmonic distortion were measured by and read from the power meter.

2.1 Electrical, Photometric and Chromaticity Measurements

(Refer to Work Instruction QD25)

Test date	2017-01-22	Test Ambient:	25.2 ℃
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	71564A		

Electrical Measurement :

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
GZE170125-E1	277.0	60	0.7702	212.3	0.9951	5.41
	480.0	60	0.4550	208.4	0.9542	8.74
				DLC Pass Criteria	>= 0.9(-3%)	<= 20(+5)

Chromaticity Measurement - Sphere-Spectroradiometer Method :

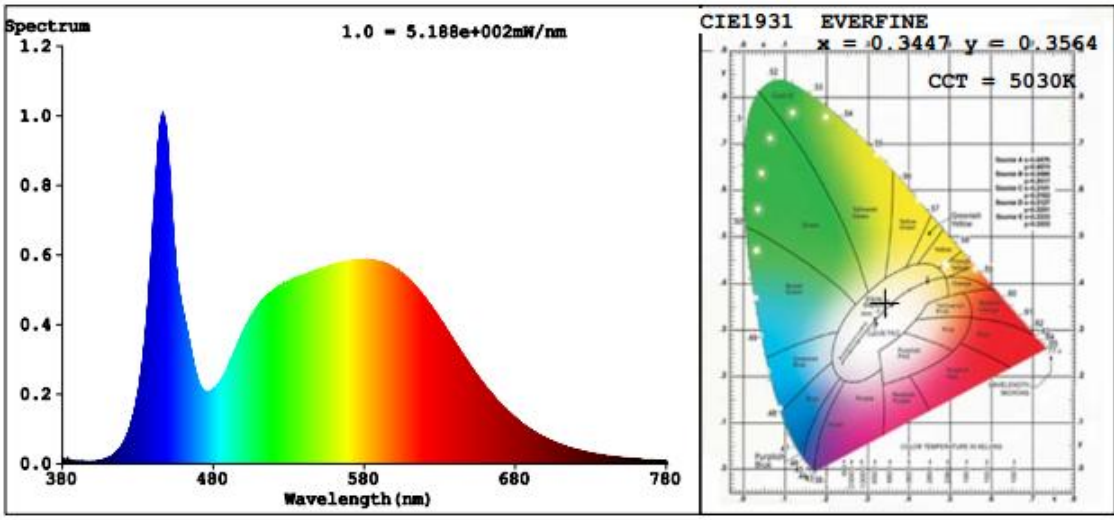
Parameter	Result
Test Voltage (V)	277.0
Frequency (Hz)	60
CCT (K)	5030
Duv	0.0026
Chromaticity (x, y)	x=0.3447 y=0.3564
Chromaticity (u', v')	u'=0.2093 v'=0.4869
Color Rendering Index (CRI)	82.3
R9	8

Special Color Rendering Indices			
R1	81	R9	8
R2	86	R10	67
R3	90	R11	84
R4	84	R12	65
R5	82	R13	82
R6	82	R14	94
R7	86	R15	75
R8	68	--	--

Photometric Measurement – Goniophotometer Method :

Parameter	Result		DLC V4.1 Pass Criteria	
Test Voltage (V)	277.0	480.0	--	
Frequency (Hz)	60	60		
Total Luminous (lm)	25380	25091	>=10000 (-10%)	
Luminous Efficacy (lm/W)	119.55	120.40	Standard: >= 100(-3%)	Premium: >= 120(-3%)
Zonal lumens in the 0-90 °zone (%)	99.8	--	>=100(-1)	
Zonal lumens in the 80-90 °zone (%)	1.0	--	<=10(+3)	
Beam Angle (°)	127.2	--	--	
Center Beam Candle Power (cd)	7151	--	--	

Spectral Power Distribution & Chromaticity Diagram

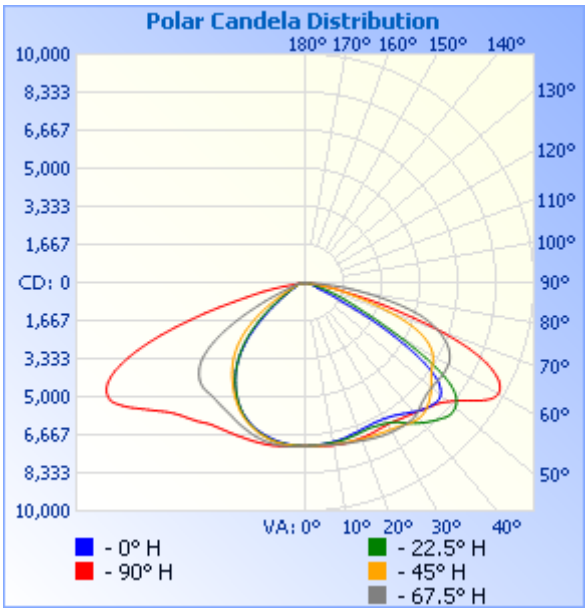


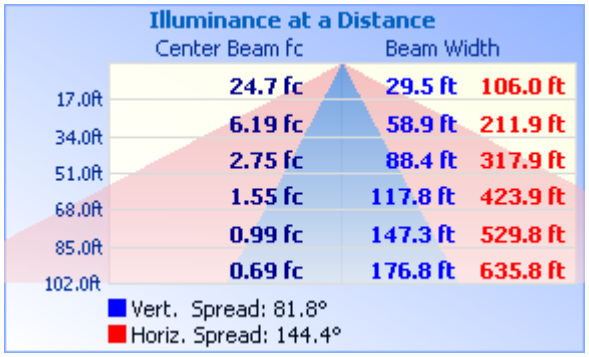
Zonal Lumen Tabulation

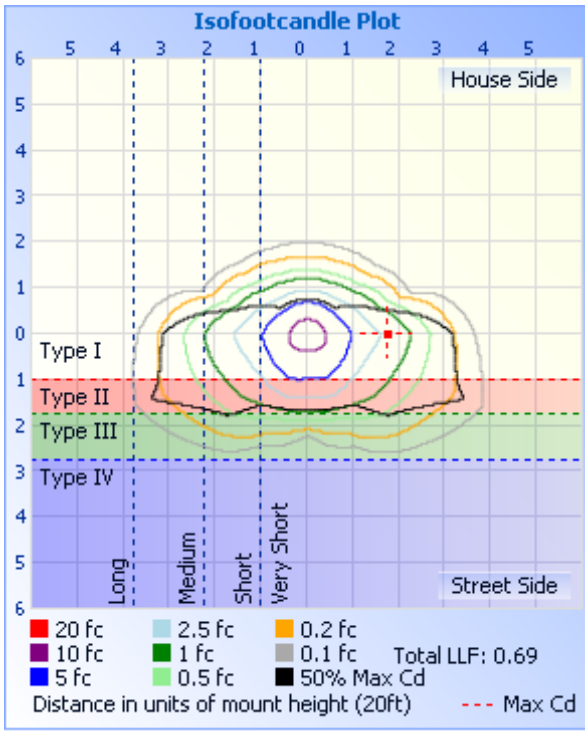
Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	5,886.4	23.2%
0-40	10,090.0	39.8%
0-60	19,932.6	78.6%
60-90	5,377.9	21.2%
70-100	1,870.8	7.4%
90-120	19.6	0.1%
0-90	25,310.4	99.8%
90-180	62.8	0.2%
0-180	25,373.2	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	682.7	2.7%	90-100	3.6	0%
10-20	2,009.2	7.9%	100-110	6.4	0%
20-30	3,194.5	12.6%	110-120	9.5	0%
30-40	4,203.6	16.6%	120-130	11.4	0%
40-50	4,940.7	19.5%	130-140	10.8	0%
50-60	4,901.9	19.3%	140-150	8.8	0%
60-70	3,510.8	13.8%	150-160	6.7	0%
70-80	1,612.6	6.4%	160-170	4.0	0%
80-90	254.5	1.0%	170-180	1.6	0%

Photometric Data







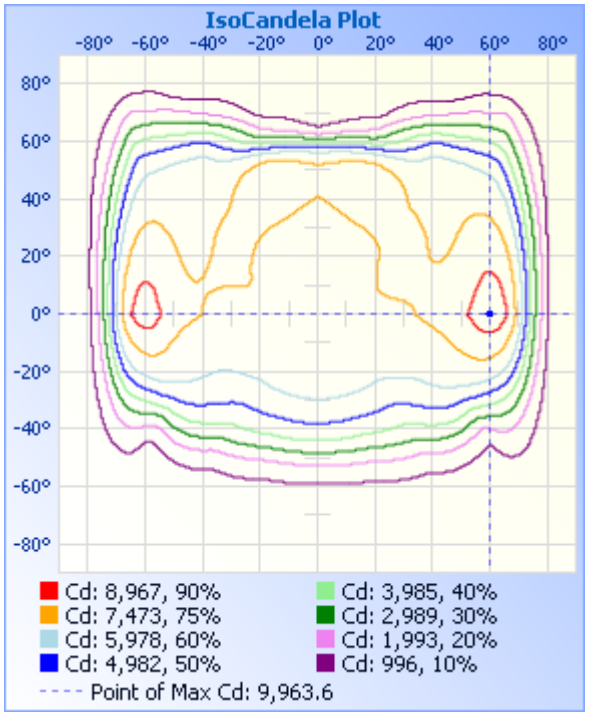


Table--1 UNIT: cd

γ (DEG) \ C (DEG)	0	23	45	68	90	113	135	158	180	203	225	248	270	293	315	338	
0	7151	7151	7151	7151	7151	7151	7151	7151	7151	7151	7151	7151	7151	7151	7151	7151	
5	7207	7186	7153	7141	7118	7128	7163	7154	7180	7145	7148	7141	7120	7134	7154	7201	
10	7253	7239	7177	7135	7072	7108	7177	7196	7224	7158	7105	7043	7036	7078	7096	7199	
15	7286	7323	7234	7103	6996	7066	7218	7274	7249	7078	6986	6909	6886	6934	6959	7138	
20	7302	7435	7306	7057	6900	6992	7288	7356	7232	6922	6731	6670	6680	6697	6745	6997	
25	7328	7558	7399	7046	6847	6981	7349	7465	7197	6697	6389	6365	6357	6377	6434	6817	
30	7384	7617	7465	7171	6884	7105	7431	7552	7174	6463	5979	5912	5907	5907	6006	6622	
35	7515	7648	7620	7556	7063	7480	7594	7597	7270	6231	5491	5338	5326	5317	5504	6497	
40	7794	7607	7794	8089	7382	8001	7743	7549	7442	6108	4965	4665	4602	4606	4958	6412	
45	8096	7366	7653	8512	7689	8416	7585	7293	7686	6030	4346	3781	3654	3745	4331	6379	
50	8691	7358	7278	8578	7717	8560	7184	7183	8105	5835	3493	2629	2452	2687	3527	6053	
55	9486	7485	6909	7636	6724	7751	6748	7227	9015	5134	2353	1546	1437	1645	2511	5274	
60	9964	7497	6508	4831	3874	4904	6455	7218	9749	3605	1282	913	854	957	1495	3765	
65	9194	7113	5761	2335	1076	2379	5787	6937	9037	1666	720	632	558	635	818	1932	
70	6682	6221	4112	1005	506	1115	4255	6211	6471	664	497	460	413	461	508	828	
75	3223	4702	2055	407	341	448	2205	4924	2896	424	335	318	346	320	334	458	
80	942	2662	610	258	267	261	709	2814	743	282	197	197	217	196	189	285	
85	159	628	88.5	141	139	144	97.4	867	184	105	60.9	80.4	89.6	78.3	58.0	105	
90	6.73	7.56	3.40	1.39	0.81	1.16	3.09	8.12	6.82	4.62	1.74	0.40	0.10	0.50	2.49	6.60	
95	7.11	3.13	1.44	0.50	0.30	0.45	1.15	3.40	7.23	6.91	3.63	0.80	0.15	1.00	4.24	8.35	
100	10.9	2.33	0.89	0.35	0.25	0.45	0.90	2.75	9.92	9.48	6.15	1.94	0.85	2.25	6.63	10.7	
105	15.0	3.96	1.14	0.40	0.40	0.64	1.44	4.73	13.3	12.7	8.34	4.14	2.35	4.65	9.02	13.9	
110	17.4	6.69	2.62	1.39	1.48	1.79	2.93	7.88	15.7	14.6	9.67	7.32	6.08	7.73	10.5	16.4	
115	18.1	9.56	4.30	2.63	3.52	2.89	4.82	10.6	16.2	15.5	11.0	8.69	9.44	9.71	11.8	17.0	
120	18.1	10.9	6.04	4.29	5.61	3.96	6.37	11.8	16.0	15.5	12.6	12.3	11.9	11.6	13.2	15.8	
125	18.2	12.5	6.99	7.34	16.1	7.91	7.62	13.4	15.7	14.7	12.3	15.2	16.3	15.1	13.0	15.5	
130	17.8	13.0	7.83	9.13	16.1	9.41	8.72	13.7	15.5	13.1	12.8	16.2	19.0	16.4	14.4	14.4	
135	15.7	12.5	8.52	11.6	17.4	12.0	9.91	12.8	14.8	12.9	12.6	16.4	19.0	16.8	13.9	14.4	
140	15.4	12.4	8.67	13.3	19.2	13.9	9.72	13.0	14.3	13.1	10.8	16.2	20.1	15.9	12.1	14.9	
145	14.6	11.3	9.81	15.2	19.7	15.3	9.01	11.9	14.3	12.8	10.6	15.6	16.2	15.9	13.2	14.6	
150	13.8	11.1	12.2	16.1	20.4	17.3	11.1	12.1	14.3	13.3	12.2	15.4	19.2	16.3	16.1	14.0	
155	12.5	11.2	13.8	16.2	19.0	16.5	13.0	12.6	13.1	13.8	12.3	14.7	14.9	14.8	16.2	13.6	
160	12.1	11.2	13.9	15.6	17.7	16.1	13.1	12.9	12.6	13.4	11.5	14.1	15.4	14.9	15.3	14.0	
165	12.7	11.2	14.3	14.3	15.3	15.2	13.3	12.6	13.8	13.0	11.3	13.7	14.3	14.7	14.9	15.3	
170	14.4	12.9	16.1	17.3	17.1	17.9	15.5	13.3	15.8	15.8	13.1	17.0	19.2	18.9	18.4	17.9	
175	15.3	14.1	16.7	17.9	19.5	17.8	16.4	14.4	16.7	16.6	15.0	17.1	18.8	20.2	18.0	17.5	
180	15.0	13.9	15.7	16.5	18.8	16.0	16.6	13.7	14.9	15.0	13.7	15.7	16.4	18.7	16.1	16.4	

3. Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Next Calibration Date
ST-R-336	2 meter Integrating Sphere	2016-07-01	2017-06-30
ST-R-331	Spectral analysis system HAAS-2000	2016-07-01	2017-06-30
D204	Standard Lamp	2016-07-01	2017-06-30
PF2010	Power Meter for Integrating Sphere	2016-07-01	2017-06-30
EE-09	Goniophotometer system	2016-07-01	2017-06-30
D908S	Standard Lamp	2016-07-01	2017-06-30
PF210	Power Meter for Goniophotometer	2016-07-01	2017-06-30
ST-R-181A	Temperature Tester	2016-07-01	2017-06-30
Uncertainty: Photometric Measurement (Sphere):1.74% Chromaticity Measurement(Sphere):14.3K Photometric Measurement(Goniophotometer):1.62%			

******** END OF REPORT ********