

**MOORPARK CITY COUNCIL
AGENDA REPORT**

TO: Honorable City Council

FROM: David A. Bobardt, Community Development Director
Prepared by: Joseph R. Vacca, Principal Planner



DATE: July 5, 2012 (CC Meeting of 7/18/2012)

SUBJECT: Consider Lighting Consultant Comments on Updated Lighting Plan Related to Ventura County Planning Commission Approval of Minor Modification No. 3 to Conditional Use Permit No. 4915 for the Tom Barber Golf Center (LU10-0087)

BACKGROUND/DISCUSSION

On September 1, 2011, the Ventura County Planning Commission approved, by a 3-1 vote, Minor Modification No. 3 to Conditional Use Permit No. 4915, which, among other things, extended the permit for the Tom Barber Golf Center from 2017 to 2037. Lighting from the Tom Barber Golf Center has been an ongoing concern of the City. The permit extension hearing offered an opportunity for the County Planning Commission to make changes to the lighting conditions, if the Commission found the lighting to be a public nuisance; however, the Commission did not make that finding and did not call for any changes to the lighting. On September 9, 2011, following the direction from City Council at their September 7, 2011 meeting, staff filed an appeal of the decision of the County Planning Commission. The public hearing on the appeal was scheduled and noticed to be heard by the Board of Supervisors on February 28, 2012. However, the applicant requested a continuance to allow more time to address outstanding lighting concerns, and the item was continued to be renoticed at a future Board meeting.

The applicant hired Musco Lighting to develop a redesign of the lighting on the Tom Barber Driving Range in response to comments from the City's lighting consultant. The proposed lighting would eliminate all ground-mounted lighting, replacing it with nine (9) seventy (70') foot high poles with two lights on each pole aimed downward instead of at a 90 degree angle to the ground. The existing pole mounted lights behind the tees would be aimed downward at a 30 degree angle, instead of being aimed horizontally straight out. The new proposed poles would be a similar height to the sports lights used in Arroyo Vista Park as well as the high voltage power lines on Tierra Rejada Road adjacent to the driving range. Staff met with County planning staff and the applicant on

site on May 23, 2012, to review the updated lighting plan; and also forwarded the new plan to Teri Jackson, Moorpark's Lighting Consultant of Seaport Lighting Inc. Ms. Jackson has indicated, (letter attached) that upon review of all supporting documents provided concerning the newly proposed Musco lighting system for the Golf Center, the proposed lighting strategy would achieve the goals of reducing off-site glare from the driving range. Staff believes that it is appropriate to submit to the County a letter of support for this revised design, provided that the existing application is withdrawn and a new application is submitted with the lighting revised as proposed in the new lighting plan. In addition to providing comments on the lighting, staff would also comment on the perimeter landscaping to make sure it is brought into compliance with approved landscaping plans and that additional trees are added to screen the new light poles.

STAFF RECOMMENDATION

Authorize staff to submit a letter of support for a new application for an extension of the Conditional Use Permit with the lighting revised as proposed in the new lighting plan, upon the applicant's withdrawal of the current application.

Attachments:

1. Musco Lighting Letter Dated June 8, 2012 Proposed Revisions
 - i. New Proposed Lighting Design – Using 9 70' Poles
 - ii. 3 Local Driving Range Layouts Musco Lighting has Completed and Installed
 - iii. 2 Fixture Pole Drawing
 - iv. Picture of the Proposed Fixture to be Used
 - v. Pole Height Chart Comparing a Shorter 40' Pole to a 70' Pole
 - vi. Pole Height Chart with Different Pole Heights
 - vii. Evolution of Light
 - viii. Project References
2. June 26, 2012 Letter from Teri Jackson, LC, MIES, Lighting Consultant with Seaport Lighting, Inc.



June 8, 2012

City of Moorpark
Mr. David Bobardt – Community Development
799 Moorpark Ave
Moorpark, CA 93021

RE: Tom Barber Golf Center

Dear Mr. Bobardt

I am writing this letter in conjunction with the meeting held at the Tom Barber Driving Range on May 23, 2012. Reason being - new proposed lighting at the driving range. After many meetings with Mr. Barber, about light trespass on the surrounding areas, Musco Lighting has come up with a new design utilizing pole mounted fixtures down each side of the driving range in lieu of existing berm fixtures.

The new proposed lighting system utilizes 9 – 70' poles with 2 Musco Light Structure Green fixtures on each pole, the fixtures will be aimed to a 30 degree angle to help mitigate the offsite spill and glare. The poles will be located down each side of range with 5 poles on the east side and 4 poles on the west side. The fixture total for the new proposed lighting system will be 18 fixtures compared to the 34 fixtures they currently use. The visor will be our 14" inch spill and glare control providing 50% better light control over the fixtures currently in use.

Musco has helped design and install many sports lighting venues in the surrounding areas including but not limited to CLU football, 5 Conejo parks and rec fields, Ventura County Softball park, Oxnard sports park, College park Oxnard, Moorpark High school, Oaks Christian High School and Middle School, 3 parks for Pleasant Valley parks and rec. I have also attached a reference list for you to review.

Along with this letter I have attached several pieces of info for you:

- 1 – New proposed lighting design – using 9 70' poles.
- 2 – 3 local driving range layouts we have completed and installed.
- 3 – 2 fixture pole drawing
- 4 – Picture of the proposed fixture to be used
- 5 – Pole height chart comparing a shorter 40' pole to a 70' pole
- 6 – Pole Height chart with different pole heights
- 7 – Evolution of light – compares the new technology to the existing
- 8 – Project references.

You will see Musco has made great advances in the Sports Lighting industry, with over 30 year of developing new products and designs, if you have any question or concerns please do not hesitate to call me and I will glad to answer any question or provide you with any additional information you may need.

Sincerely,

Michael Winfrey
Musco Sports Lighting
949-754-0503 ext 6116
mike.winfrey@musco.com

Enclosure



GUARANTEED PERFORMANCE

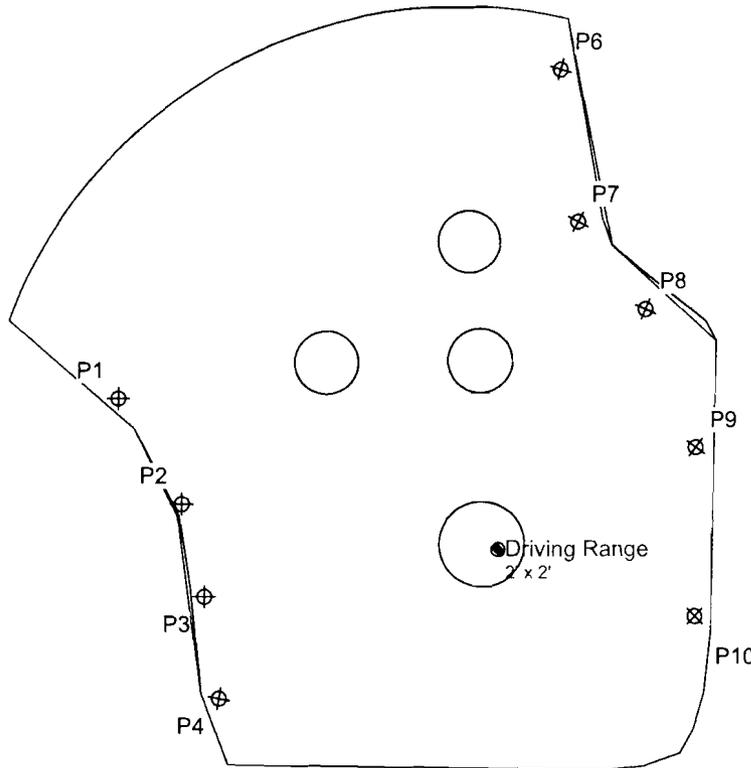
EQUIPMENT LAYOUT

Tom Barber Golf Driving Range
Moorpark, CA

INCLUDES:
· Driving Range

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.



EQUIPMENT LIST FOR AREAS SHOWN						
Pole			Luminaires			
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY/POLE
9	P1, P10 P2-P4 P6-P9	70'	-	70'	1500W MZ	2
9	← TOTALS →					18

SINGLE LUMINAIRE AMPERAGE DRAW CHART							
Ballast Specifications (.90 min power factor)	Line Amperage Per Luminaire (max draw)						
	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)
Single Phase Voltage	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)
1500 watt MZ	8.6	7.7	7.5	6.5	5.1	-	3.7



By: Alex Nielsen

File #: 157590r3

Date: 19-Apr-12

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

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EQUIPMENT LIST FOR AREAS SHOWN								
Pole			Luminaires					
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
9	P1, P10 P2-P4 P6-P9	70'	-	70'	1500W MZ	2	2	0
9	TOTALS					18	18	0



GUARANTEED PERFORMANCE

ILLUMINATION SUMMARY

Driving Range

Tom Barber Golf Driving Range
Moorpark, CA

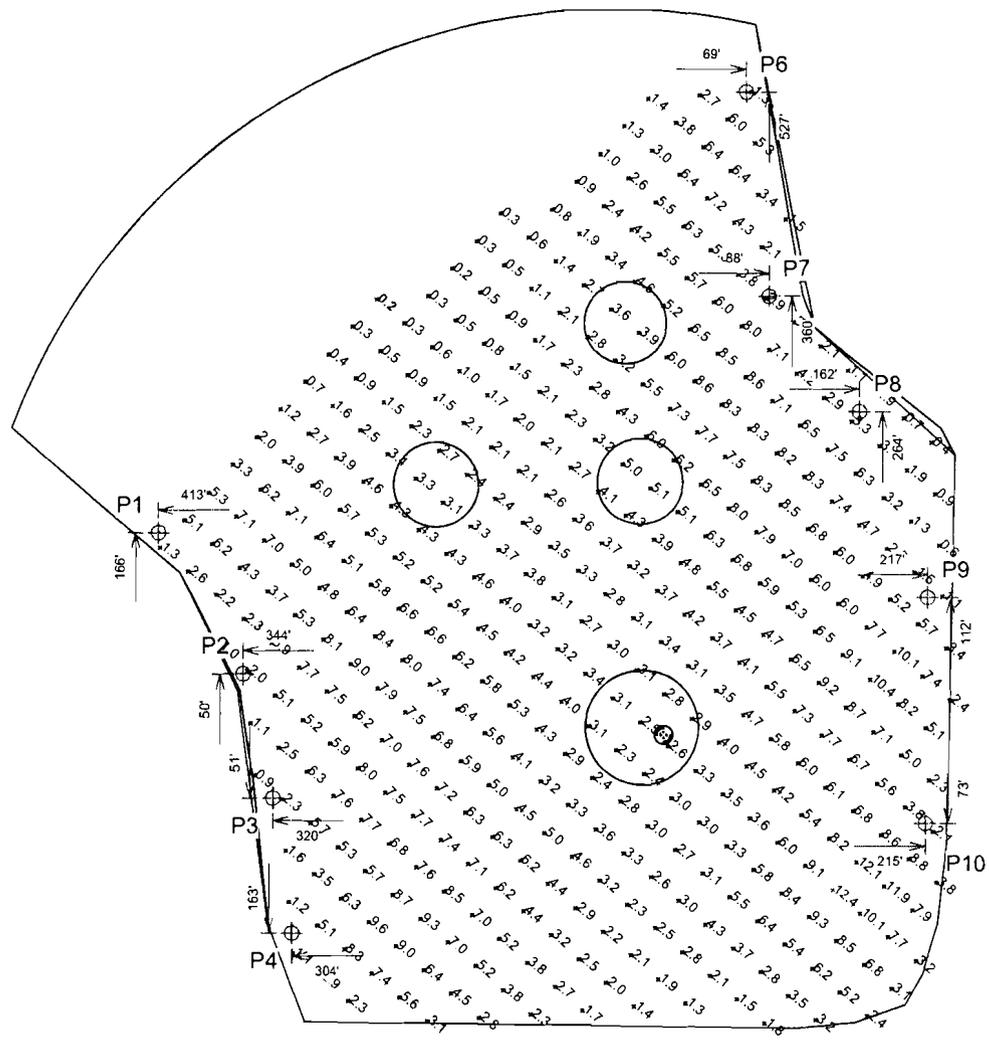
Range

- Size: 2' x 2'
- Grid Spacing = 30.0' x 30.0'
- Values given at 3.0' above grade

- Luminaire Type: Green Generation
- Rated Lamp Life: 5,000 hours
- Avg Lumens/Lamp: 134,000

**CONSTANT ILLUMINATION
HORIZONTAL FOOTCANDLES**

Entire Grid	
No. of Target Points:	415
Average:	4.5
Maximum:	12
Minimum:	0
Avg/Min:	24.42
Max/Min:	67.76
UG (Adjacent Pts):	5.13
CV:	0.55
Average Lamp Tilt Factor:	1.000
Number of Luminaires:	18
Avg KW over 5,000:	28.15
Max KW:	30.6



SCALE IN FEET 1 : 150



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

By: Alex Nielsen

File #: 157590r3

Date: 19-Apr-12

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EQUIPMENT LIST FOR AREAS SHOWN									
Pole			Luminaires						
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY/POLE	THIS GRID	OTHER GRIDS	
9	P1, P10 P2-P4 P6-P9	70'		70'	1500W MZ	2	2	0	
TOTALS						18	18	0	



GUARANTEED PERFORMANCE

ILLUMINATION SUMMARY

Driving Range

Tom Barber Golf Driving Range
Moorpark, CA

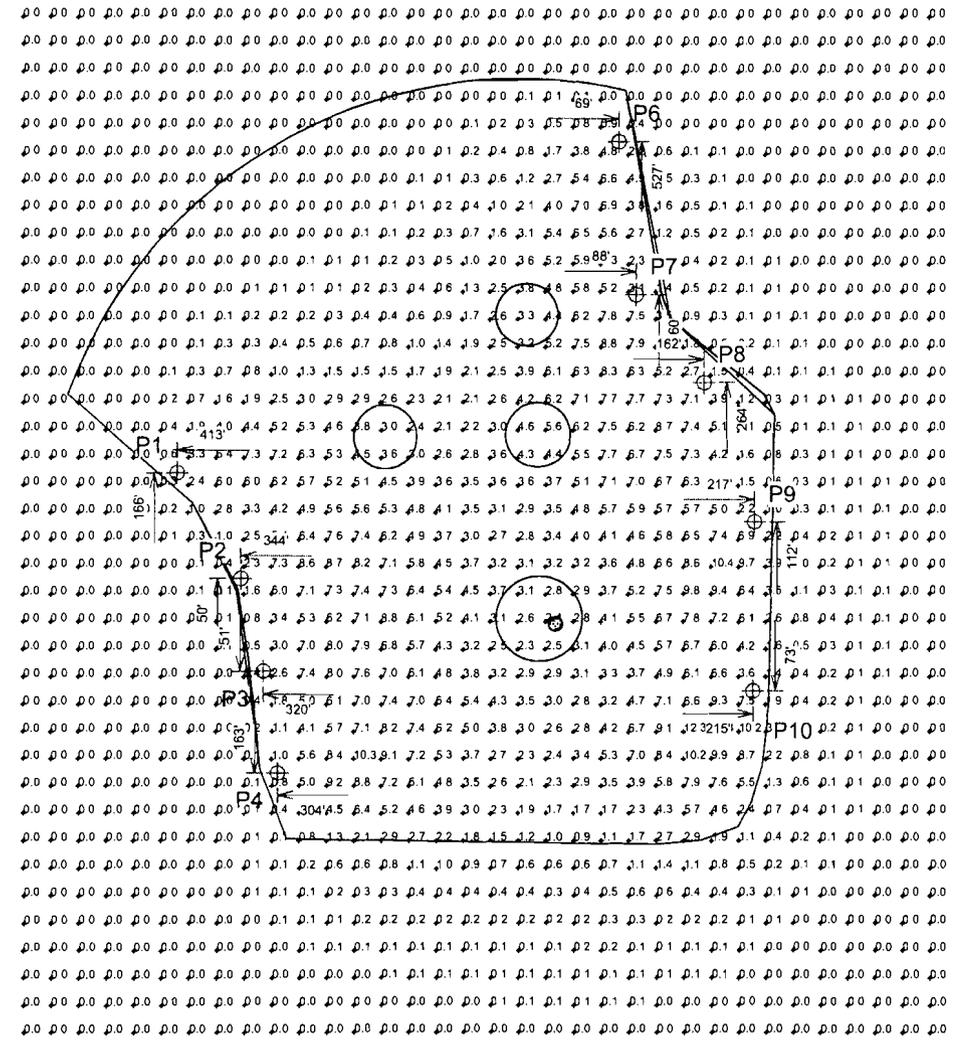
Grid

- Size: 2' x 2'
- Grid Spacing = 30.0' x 30.0'
- Values given at 3.0' above grade

- Luminaire Type: Green Generation
- Rated Lamp Life: 5,000 hours
- Avg Lumens/Lamp: 134,000

CONSTANT ILLUMINATION HORIZONTAL FOOTCANDLES

Entire Grid	
No. of Target Points:	1292
Average:	1.5
Maximum:	12
Minimum:	0
Avg/Min:	5969.64
Max/Min:	49144.99
UG (Adjacent Pts):	152.23
CV:	1.63
Average Lamp Tilt Factor:	1.000
Number of Luminaires:	18
Avg KW over 5,000:	28.15
Max KW:	30.6



Guaranteed Performance: The CONSTANT ILLUMINATION described above is guaranteed for the rated life of the lamp.

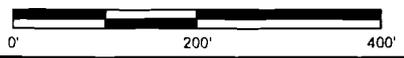
Field Measurements: Averages shall be +/-10% in accordance with IESNA RP-6-01 and CIBSE LG4. Individual measurements may vary from computer predictions.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.

By: Alex Nielsen
File #: 157590r3
Date: 19-Apr-12
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SCALE IN FEET 1 : 200



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

NO.	DATE	BY	REVISION
1	11/11/11
2
3

80' poles
31 Fixtures

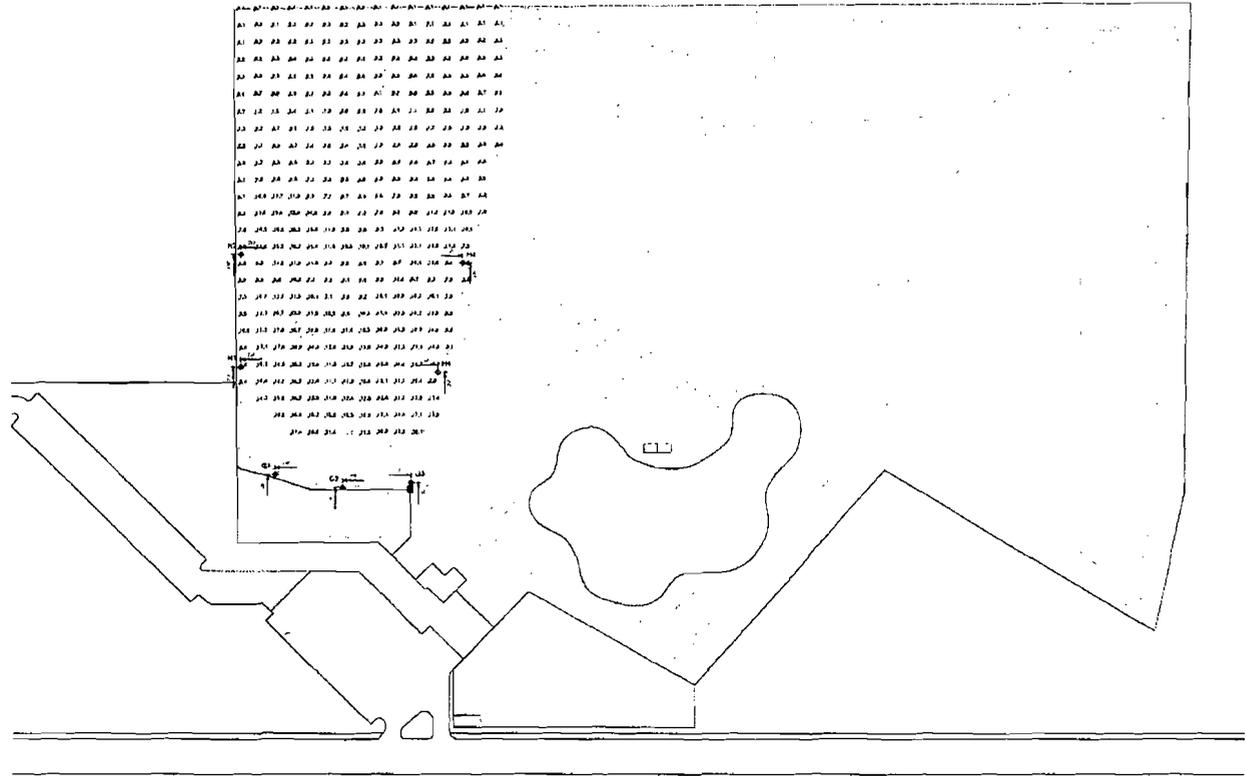


ILLUMINATION PERFORMANCE SUMMARY

Driving Range
 Lake City
 Lake, CA
 Working Range
 Day 18' x 9"
 Cold Season 18' x 9" x 18"
 Warm Season 18' x 9" x 18"

CONSTANT FOOTCANDLES

Area	Foot-Candle
Area 1	1.00
Area 2	1.00
Area 3	1.00
Area 4	1.00
Area 5	1.00
Area 6	1.00
Area 7	1.00
Area 8	1.00
Area 9	1.00
Area 10	1.00
Area 11	1.00
Area 12	1.00
Area 13	1.00
Area 14	1.00
Area 15	1.00
Area 16	1.00
Area 17	1.00
Area 18	1.00
Area 19	1.00
Area 20	1.00
Area 21	1.00
Area 22	1.00
Area 23	1.00
Area 24	1.00
Area 25	1.00
Area 26	1.00
Area 27	1.00
Area 28	1.00
Area 29	1.00
Area 30	1.00
Area 31	1.00

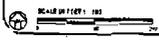


CONSTANT FOOTCANDLES

Numbered Performance: The CONSTANT FOOTCANDLES are based on a 10-foot by 10-foot area of footcandle.

Public Use: This lighting design is for public use only. It is not intended for use in residential or commercial areas. It is not intended for use in areas where there are people or property.

Design: This lighting design is for public use only. It is not intended for use in residential or commercial areas. It is not intended for use in areas where there are people or property.



By Tim Dugg
 11/11/11
 File: 1111111111
 Date: 11/11/11

EQUIPMENT LIST FOR AREAS SHOWN									
Pole					Luminaires				
QTY	LOCATION	SIZE	GRADE RELATION	HEIGHT	LAMP TYPE	BY/	THE	OTHER	REMARKS
1	P1	20'	-6'	74'	1500W/MZ	6	8	0	
1	P2	80'	-3'	71'	1500W/MZ	6	8	0	
1	P3	80'	-20'	80'	1500W/MZ	6	8	0	
1	P5	80'	-16'	84'	1500W/MZ	6	8	0	
1	P5	80'	-22'	88'	1600W/MZ	6	8	0	
1	T1	80'	-	80'	1500W/MZ	8	8	0	
TOTALS						38	38	0	

74, 71, 60, 64, 58, 80 existing Poles
38 Fixtures



GUARANTEED PERFORMANCE

ILLUMINATION SUMMARY

RectangleField1
Carlebad Golf Driving Range
Carlebad, CA

Tee Box
Size: 2' x 2'
Grid Spacing = 10.0' x 10.0'
Values given at 3.0' above grade

Luminaire Type: Green Generation
Rated Lamp Life: 5000 hours
Avg Lumens/Lamp: 134,000

CONSTANT ILLUMINATION HORIZONTAL FOOTCANDLES

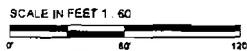
Statistical Area	
No. of Target Points:	136
Average:	30.8
Maximum:	43
Minimum:	13
Avg/Min:	2.37
Max/Min:	3.34
UG (Adjacent Poles):	1.39
CV:	0
Average Lamp Tilt Factor:	1.000
Number of Luminaires:	38
Avg KW over 5000 hours:	59.43
Max KW for Sizing Transformer:	64.6

Guaranteed Performance: The CONSTANT ILLUMINATION described above is guaranteed for the rated life of the lamp.

Field Measurements: Averages shall be +/-10% in accordance with IESNA RP-8-01 and CIBSE LG4. Individual measurements may vary from computer predictions.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume +/-3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.



Pole location(s) @ dimensions are relative to 0,0 reference point(s) @

By: Matt Smith Date: 17-Aug-06

File #: 1100926

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Print Date (17-Aug-2006) & Time (08:32)

EQUIPMENT LISTING						
Pole count	Pole location	Mounting height	Pole size	Elev.	Fix. /unit	Kilow /unit
6	P1-P6	70'	70'	0'	3	4.8
2	T1-T3	70'	70'	0'	5	8

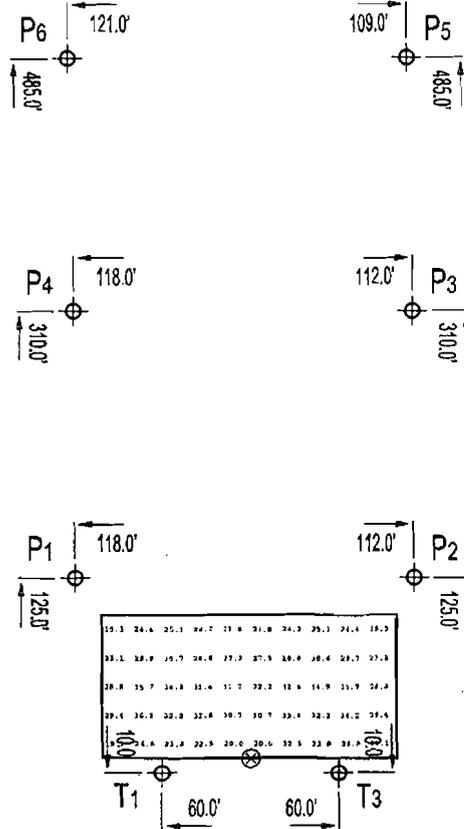
ANAHEIM, CA TIGER WOODS FOUNDATION
DRIVING RANGE

70' poles
28 Fixtures

Fixture Type: LV-8 MZ
Lamp Type: 1500W MZ
Lumens: 155000
File # / Date: 104103dm3 / 17-Nov-2004
Prepared By: MARK BELLOMA



INITIAL ILLUMINATION RECTANGLE HORIZONTAL FOOTCANDLES ON PLANE AT Z= 3	
Target Points:	50
Average:	27.68
Maximum:	36.24
Minimum:	18.86
Avg/Min:	1.467
Max/Min:	1.921
UG (Adj pts)	1.537
CV:	0.183
Number of Luminaires:	28
* KW Consumption:	44.80
**Average Tilt Factor:	0.932
***Recoverable Light Loss Factors: x	1.000
Total Light Loss Factor(LLF)	0.932



*Refer to amperage draw for electrical sizing.

** Additional non-recoverable Light Loss Factors are design constants equal to 1.0 at maintained illumination levels.

*** Includes Luminaire Dirt Depreciation and Lamp Lumen Depreciation - per IESNA Lighting Handbook 9th Edition, page 9-17.

NOTE: Light level averages and uniformities are guaranteed by MUSCO. However, individual location measurements may vary from computer predictions.

INSTALLATION REQUIREMENTS:
Results assume +-3% nominal voltage at load side of ballast box and poles located within 3 feet of design locations.

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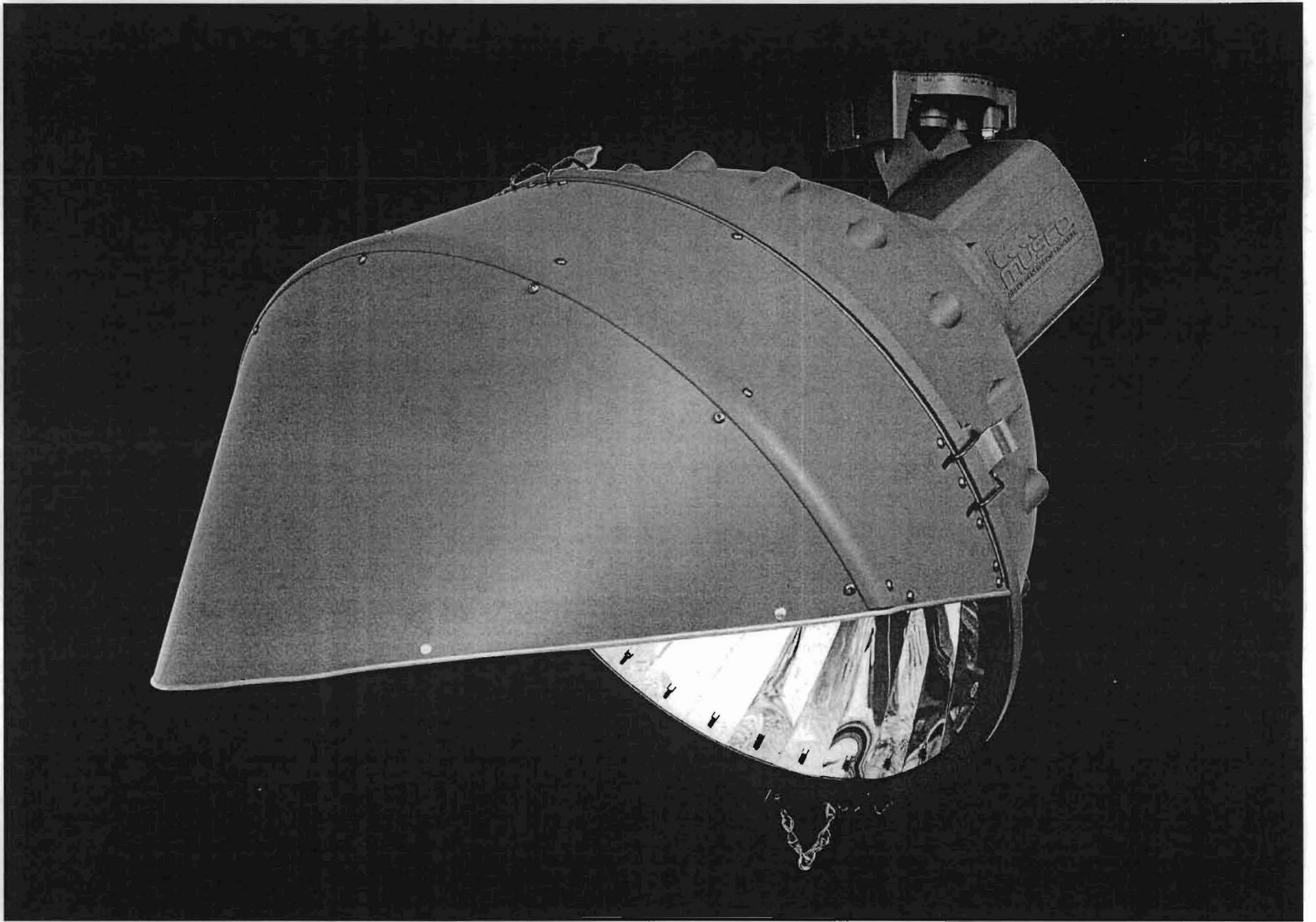
⊗ = Pole Location

SCALE IN FEET



0 120 240

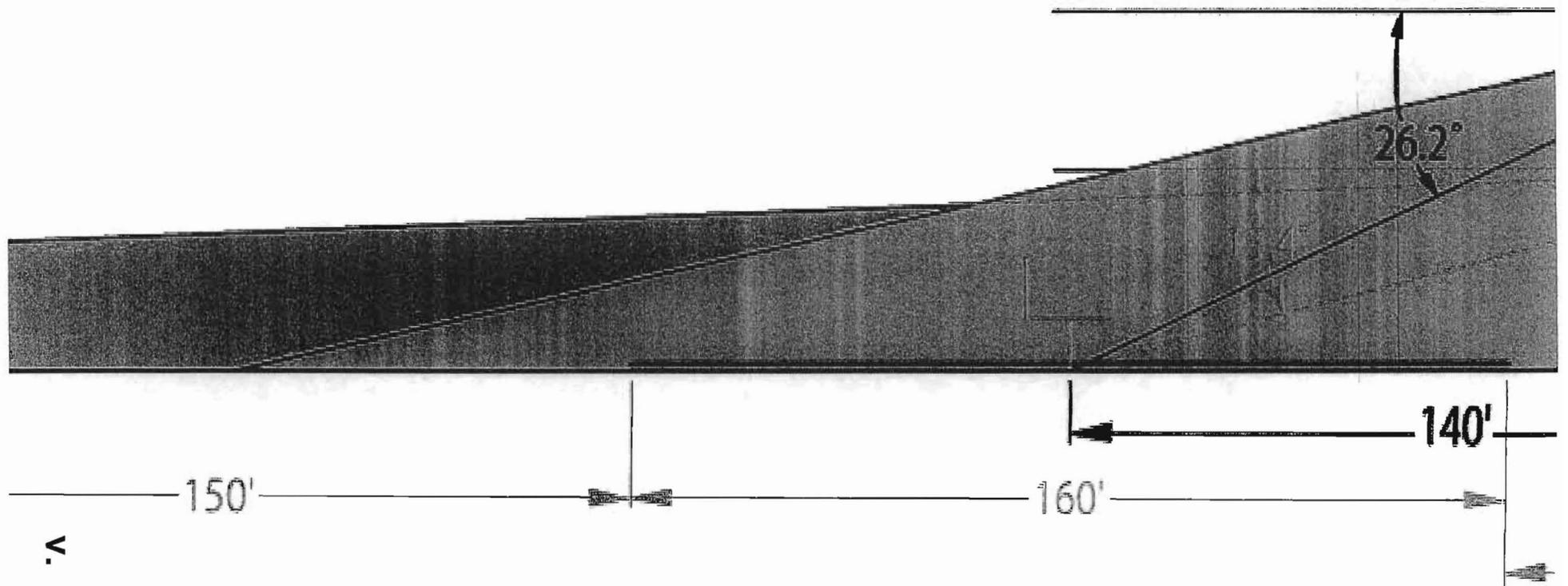
Pole location dimensions are relative to 0,0 reference point ⊗.



iv.

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	40' Mounting Height	70' Mounting Height
Footcandles	0.725	0.194
Footcandles	0.068	0.034
Candela	99,406	27,157





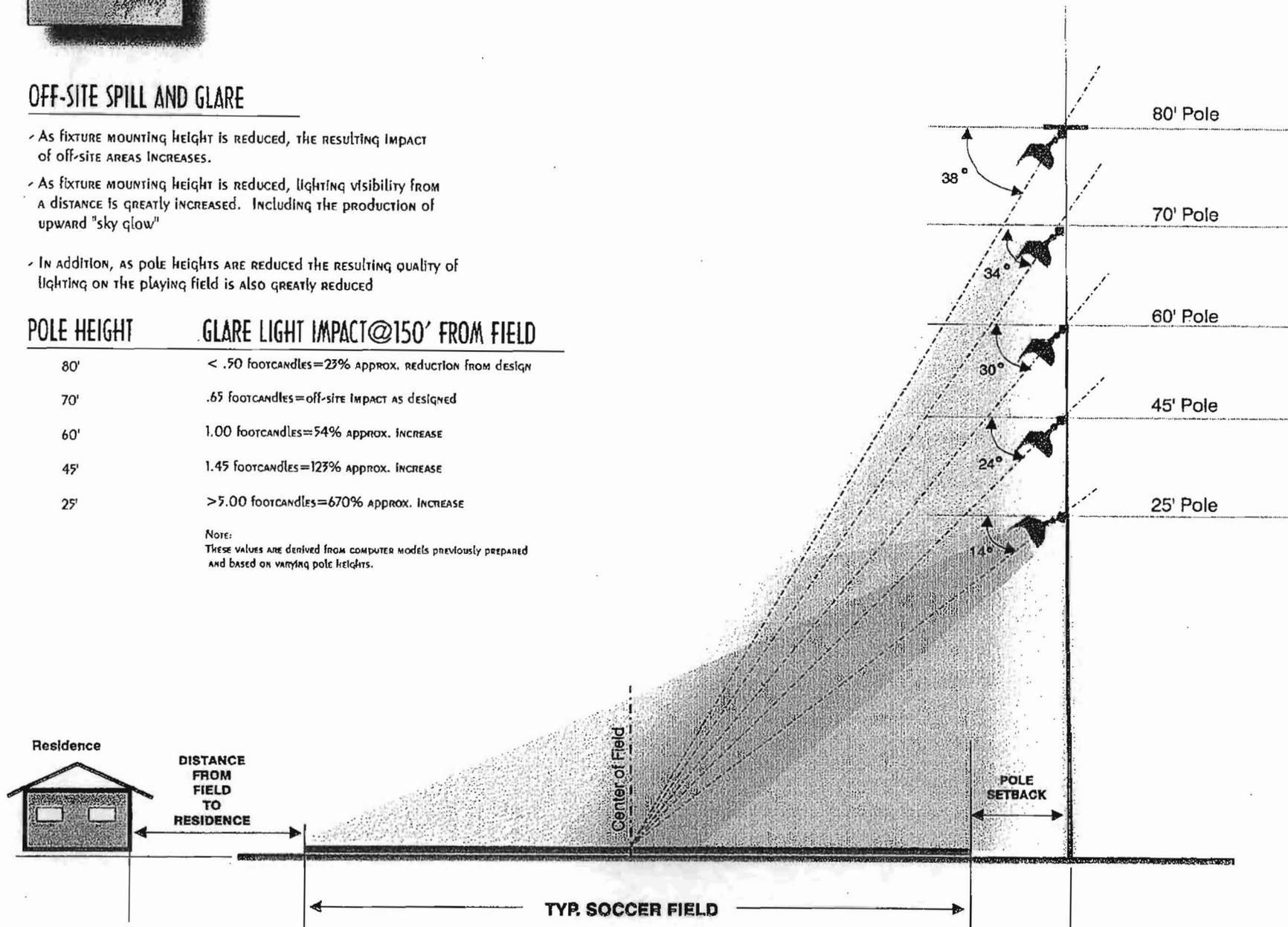
OFF-SITE SPILL AND GLARE

- As fixture mounting height is reduced, the resulting impact of off-site areas increases.
- As fixture mounting height is reduced, lighting visibility from a distance is greatly increased. Including the production of upward "sky glow"
- In addition, as pole heights are reduced the resulting quality of lighting on the playing field is also greatly reduced

POLE HEIGHT GLARE LIGHT IMPACT @ 150' FROM FIELD

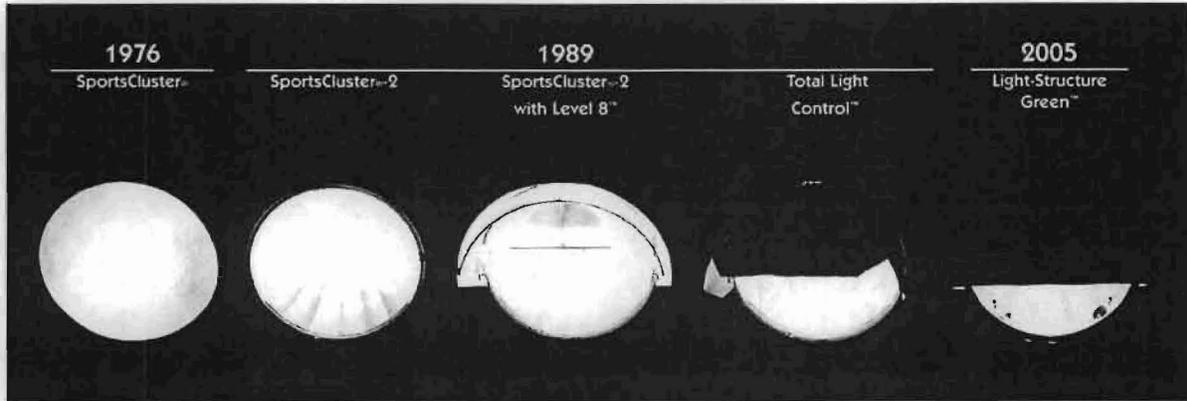
80'	< .50 footcandles = 23% approx. reduction from design
70'	.65 footcandles = off-site impact as designed
60'	1.00 footcandles = 54% approx. increase
45'	1.45 footcandles = 123% approx. increase
25'	> 5.00 footcandles = 670% approx. increase

NOTE:
These values are derived from computer models previously prepared and based on varying pole heights.



No Scale

Evolution of Light



The Tom Barber Driving range, is utilizing the Level 8 technology available during the 1990's, the new proposed 70' poles would utilize the Light Structure Green Technology on the far right.

Driving Ranges

- Abu Dhabi Golf Club**
Abu Dhabi, United Arab Emirates
- Atkinson Country Club**
Atkinson, New Hampshire
- Ascarate Golf Course**
El Paso, Texas
- Balan Country Club Driving Range**
Hwaseong, South Korea
- Beijing Taige Sports and Recreation Center**
Beijing, China
- Blue Island Driving Range**
Incheon, South Korea
- Bradford Creek Driving Range**
Greenville, North Carolina
- Carlsbad Golf Course**
Carlsbad, California
- Villa Tuscania Driving Range**
La Libertad, El Salvador
- Dubai Festival City Driving Range**
Dubai, United Arab Emirates
- Dulles Presidential Golf Course**
Dulles, Virginia
- Falls Road Golf Course**
Potomac, Maryland
- Florida A&M University**
Tallahassee, Florida
- Fort Sill Army Base**
Fort Sill, Oklahoma
- Galloping Hills**
Kenilworth, New Jersey
- Glen Cove Golf**
Glen Cove, New York
- Golf Academy**
New Delhi, India
- Goseong Nobel Country Club Driving Range**
Goseong, South Korea

- Himlam Driving Range**
Ho Chi Minh, Vietnam
- Imperial Golf Township**
Ludhiana, India
- Iowa State University Veenker Driving Range**
Ames, Iowa
- Prospect Driving Range**
Gorey, Ireland
- Sichuan Panzihua Golf Driving Range**
Panzihua, China
- Sihui Nantian Golf Driving Range**
Zhaoqing, China
- Stanley Golf Course**
New Britain, Connecticut
- Sugar Creek**
Villa Park, Illinois
- The Els Club Driving Range**
Dubai, United Arab Emirates
- Tianfu Country Club**
Chengdu, China
- TMV Golf Course**
Arouca, Trinidad and Tobago
- TopGolf Wood Dale Driving Range**
Wood Dale, Illinois
- University of Washington**
Seattle, Washington
- Uptown Cairo Golf**
Cairo, Egypt
Chipping Area
- Valley Golf Center**
Avondale, Arizona
- Yellow Bamboo Golf**
Bangkok, Thailand

Par 3 Courses

- Beijing Moon River Golf Course**
Beijing, China
9 lighted holes
- Duran Golf Club**
Melbourne, Florida
9 lighted holes
Driving range
- Indio Golf Course**
Indio, California
18 lighted holes
Driving range
- Kimcheon Golf Land Par 3 Country Club**
Kimcheon, South Korea
9 lighted holes
- Paju New Grand Prix Par 3 Country Club**
Paju, South Korea
9 lighted holes
- The Wave Golf**
Muscat, Oman
5 lighted holes
Driving range
- Tianjin Green Golf**
Tianjin, China
9 lighted holes
- Yas Island Golf**
Abu Dhabi, United Arab Emirates
6 lighted holes
Driving range



June 26, 2012

Mr. Dave Bobardt
City of Moorpark
799 Moorpark Ave
Moorpark, CA 93021

Mr. Joe Vacca
City of Moorpark
799 Moorpark Ave
Moorpark, CA 93021

Subject: Tom Barber Golf Center – Driving Range Lighting review

Dear Mr. Bobardt and Mr. Vacca:

After careful review of all supporting documents provided concerning the newly proposed Musco lighting system for the Golf Center, I acknowledge this is an acceptable lighting strategy to implement.

Of note, however, the photometric grid calculation overlay terminates at the property line so the actual spill-over cannot be determined. I do believe the spill over to be nominal beyond 60' as the light levels depicted on the 30' x 30' grid drop substantially at every grid point beyond a specific concentrated light source. Given the optical design of the proposed fixture along with the fixture height specified and fixture/pole locations, I believe this overall solution to be the best option available for this type of night-time business. The optical assembly should provide ample task illumination while minimizing sky glow and glare to passers-by.

Please let me know if I can provide further assistance.

Sincerely,

A handwritten signature in black ink that reads "Teri L. Jackson".

Teri L. Jackson, LC, MIES
Cell: 760-969-8348
Office: 760-730-5906
Fax: 866-268-2547
Email: terij@seaportlighting.com

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622 S. FREEMAN ST., OCEANSIDE, CA 92054