



# Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

April 16, 2020

SUBJECT: Various Routes  
Section D4 Lighting Upgrade 2020  
Various Counties  
Contract No. 68F56  
Item No. 47, April 24, 2020 Letting  
Addendum A

## NOTICE TO PROSPECTIVE BIDDERS:

Attached is an addendum to the plans or proposal. This addendum involves revised and/or added material.

1. Revised the Schedule of Prices in ICX only.
2. Revised the Table of Contents to the Special Provisions.
3. Added pages 47-49 to the Special Provisions.
4. Revised sheet 2 of the Plans.

Prime contractors must utilize the enclosed material when preparing their bid and must include any changes to the Schedule of Prices in their bid.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Jack A. Elston'.

Jack A. Elston, P.E.  
Bureau Chief, Design and Environment

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## LUMINAIRE PERFORMANCE TABLES

Luminaires at the following locations listed below shall conform to the luminaire performance table shown below:

US 34 & Mellinger Road, US 34 & IL 41/Main St., I-155 & Townline Rd. (Exit 22), I-155 & IL 9 (Exit 25), and I-155 & IL 122 South (Exit 15), I-155 & Broadway Rd., I-155 & Main St.

<b>LUMINAIRE PERFORMANCE TABLE</b>		
LED Replacement for 250W HPS Multi-Mount Luminaire (Replacement luminaire shall be mounted horizontally)		
	<b>GIVEN CONDITIONS</b>	
<b>ROADWAY DATA</b>	Lane Width	12 ft
	Number of Lanes (One Direction Only)	3
	Median Width	0 ft
	I.E.S. Surface Classification	R3
	Q-Zero Value	.07
<b>LIGHT POLE DATA</b>	Mounting Height	45 ft
	Luminaire Overhang From Edge of Pavement (White Line)	-30 ft
<b>LUMINAIRE DATA</b>	Luminaire Type	LED
	I.E.S. Vertical Distribution	Medium
	BUG Rating	U = 0
	I.E.S. Lateral Distribution	Type III or IV
	Total Light Loss Factor	0.684
<b>LAYOUT DATA</b>	Spacing	145 ft
	Configuration	One Sided
<b>NOTES:</b>	1. Total light loss factor is the product of "Lumen Depreciation" (LLD) = 0.90, "Dirt Depreciation" (LDF)= 0.80, and "Equipment factors" (EF) = 0.95.	
	<b>PERFORMANCE REQUIREMENTS</b>	
<b>NOTE:</b> These performance requirements shall be the acceptable standards of photometric performance for the luminaire, based on the given conditions listed above.		
<b>ILLUMINANCE</b>	Average Illuminance, $E_{AVE}$	<u>0.9 fc to 1.4 fc</u>
	Uniformity Ratio, $E_{AVE}/E_{MIN}$	<u><math>\leq 3.0:1</math></u>
<b>LUMINANCE</b>	Average Luminance, $L_{AVE}$	<u>0.6 cd/m<sup>2</sup> to 0.9 cd/m<sup>2</sup></u>
	Uniformity Ratio, $L_{AVE}/L_{MIN}$	<u><math>\leq 3.5:1</math></u>
	Uniformity Ratio, $L_{MAX}/L_{MIN}$	<u><math>\leq 6.0:1</math></u>
	Max. Veiling Luminance Ratio, $L_v/L_{AVE}$	<u><math>\leq 0.3:1</math></u>

Added April 16, 2020

Luminaires at the following locations listed below shall be equipped with house side shielding and shall conform to the luminaire performance table shown below:

US 34 & Carman Rd, US 67 & IL 116, I-155 & IL 122 North (Exit 18)

<b><u>Luminaire Performance Table</u></b>				
<b>Roadway:</b>				
<u>Lane Width</u>	<u># of Lanes</u>	<u>Median Width</u>	<u>I.E.S. Surface Classification</u>	<u>Q-Zero Value</u>
15	3	N/A	R3	0.07
<b>Structure:</b>				
<u>Mounting Height</u>	<u>Arm Length</u>	<u>Set-Back</u>	<u>Number of Luminaires (High mast and Sign Lighting Only)</u>	
45 ft	1 ft	31 ft	N/A	
<b>Luminaire:</b>				
<u>Description</u>		<u>I.E.S. Lateral Distribution</u>	<u>I.E.S. Vertical Distribution</u>	
Shielded Roadway Output Designation H		Type III or IV	Medium	
<u>Total Light Loss Factor (LLF)</u>	<u>B-U-G Rating</u>	<u>Shields</u>	<u>Dimming Protocol</u>	
0.7	U = 0	House Side Shields	0-10V	
<b>Layout:</b>				
<u>Spacing (to Nearest 5 ft)</u>		<u>Configuration (Opposite, Staggered, 1 Sided, or Median)</u>		
145 ft		1 Side		
<b>Performance:</b>				
<u>Average Illuminance, EAVE (fc)</u>		<u>Uniformity Ratio, EAVE/EMIN</u>		
0.9 to 1.4		3.0:1		
<u>Average Luminance, LAVE (cd/m<sup>2</sup>)</u>	<u>Uniformity Ratio, LAVE/LMIN</u>	<u>Uniformity Ratio, LMAX/LMIN</u>	<u>Veiling Luminance Ratio, LV/LAVE</u>	
0.6 to 0.9	3.5:1	6.0:1	0.3:1	
<b>Light Trespass:</b>				
<u>Distance to ROW (behind pole)</u>	<u>Max. Horizontal Illuminance at ROW, EH</u>		<u>Max. Vertical Illuminance at ROW, EV</u>	
25 ft	0.2 fc		0.2 fc	

Added April 16, 2020

**Notes:**

1. Set-Back is from Edge of Pavement (white line) except for sign luminaires when it is vertical and horizontal distance from the sign to the luminaire.
2. Lighting calculations shall be performed with all luminaires oriented toward and perpendicular to the roadway.
3. Total Light Loss Factor (LLF) = the product of "Lumen Maintenance" (LLD) = 0.9, "Dirt Depreciation" (LDD) = 0.8, and "Equipment Factors" (EF) = 0.95.
4. Performance requirements shall be the minimum acceptable standards of photometric performance for the luminaire, based on the given conditions listed above.
5. Lighting calculations shall be performed in 1 direction.
6. Vertical light trespass calculations shall be performed 3 ft above grade.

Basis of Payment: This work will not be paid for separately, but shall be included in the contract unit bid prices for LUMINAIRE, LED, ROADWAY, OUTPUT DESIGNATION H.

Added April 16, 2020