

TSRA25 BET

2.5" Track Spot Luminaire with Regressed Arm

2.5" Diameter Track spot designed for retail, hospitality and commercial spot lighting applications.

LUMENS / WATTAGE DATA

PART NUMBER	DELIVERED LUMENS*	SYSTEM WATTS	LPW
TSRA25 13L BET	1320	14	94

*Nominal Delivered Lumens

*90CRI has same delivered lumens as original 80CRI version due to use of special trigain phosphor LED diodes

FEATURES

TSRA25 fixture delivers approximately 1300 initial lumens viz precise TIR optics. Available in four distinct beam patterns. Regressed optic produces clean beam with smooth edge and is field interchangeable to other beam angles without tools. Integral flat black baffle reduces peripheral brightness. Sturdy, regressed support arm has positive friction-grip hardware that will not sag, or rotate out of aiming position over time. Clean cylindrical housing has no exposed hardware and can rotate 359 degrees with up to 90 degree aiming from nadir. Integral on/off switch for convenience.

CONSTRUCTION

TSRA25 is constructed of die cast aluminum and fabricated steel and is finished with durable powder coat finish that can be easily cleaned and maintained.

ELECTRONICS

TSRA25 has best in class LED system with 5 MacAdam ellipse binning and 90+ CRI. Integral 120V power supply is dimmable via ELV type dimming protocol control devices (contact factory for more information).

CODE COMPLIANCE

ETL listed for dry location. Manufactured and tested to UL Standards No. 1574.

WARRANTY

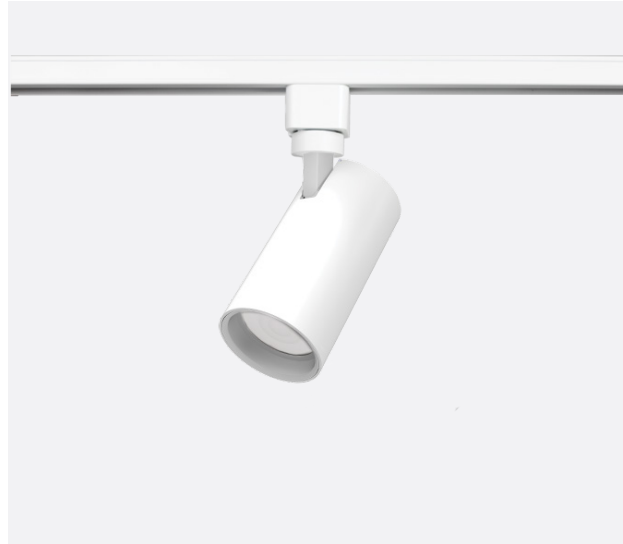
5 year warranty standard. L70>60,000 hours.

PROJECT: _____

QUANTITY: _____

TYPE: _____

SPEC
TRAC



PRODUCT SELECTOR GUIDE

SERIES	FAMILY	LUMENS	CCT	BEAM	DIMMING	ADAPTOR	FINISH
TS	RA25	13L			E1	BET	

EXAMPLE

TS	RA25	13L	35HK	MD	E1	BET	MW
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SERIES	FAMILY	LUMENS	CCT	BEAM	DIMMING	ADAPTOR	FINISH
TS	RA25	13L - 1320 Lm	90 CRI	XN - 20°	E1 - Electronic Driver, 120V. ELV / TRIAC Dimming.	BET - Basix 1 CIR/1 NEUT 120V	MW - Matte White
			30HK - 3000 K	ND - 26°			MB - Matte Black
			35HK - 3500 K	MD - 38°			
			40HK - 3900 K	XW - 56°			

GREEN TEXT INDICATES QUICK SHIP OPTIONS



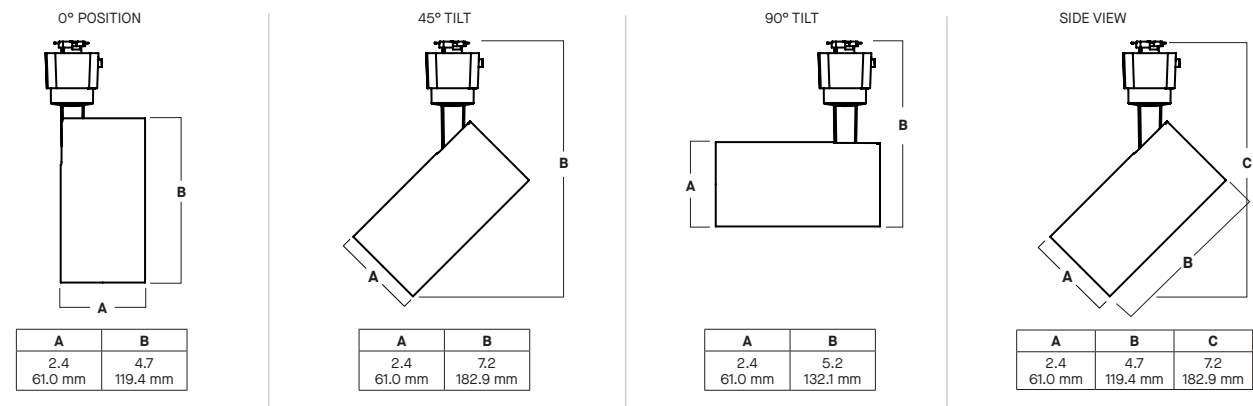
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FIXTURE DIMENSIONS



FINISH

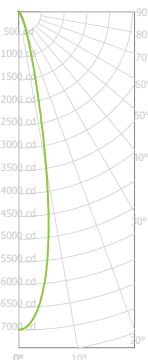


PAINT TIMES

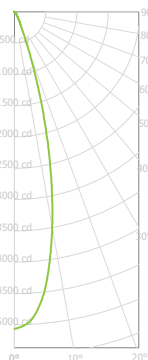
TIER	COST	AVERAGE PAINT TIME*
Tier 1 - Standard Finishes	\$	⌚
Custom Color	Contact Factory	Contact Factory

*CONTACT FACTORY FOR SPECIFIC PRODUCT LEAD TIMES

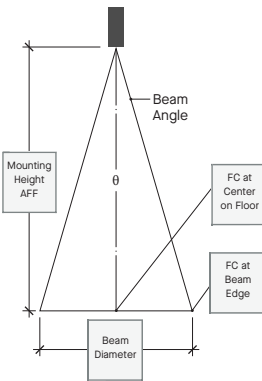
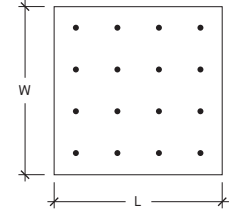
TS - RA25 - 13L - 35HK - XN - xx -xx - MW

CANDLEPOWER CURVE TEST TSRA25-3	INTENSITY CANDELA 0° AZIMUTH	ZONAL LUMENS	SINGLE UNIT: PERFORMANCE HORIZONTAL FOOTCANDLES INITIAL DOWNLIGHT ONLY	MULTIPLE UNITS: PERFORMANCE 80/50/20% REFLECTANCES HORIZONTAL FOOTCANDLES AND WATTS/SQ FT								
	0.00°	0° - 10° 499 42%	Mounting Distance	FC at Beam Center	Diameter at Beam Angle	FC at Beam Edge	Ceiling Height	Fixture Spacing	RCR 4		RCR 6	
	0.00° 6992	0° - 20° 893 75%							FC *	W/Sq. Ft.	FC *	W/Sq. Ft.
	5.00° 6148	0° - 30° 1040 88%	8.0 ' 109 fc	2.8 ' 52 fc	14' 2'	291 3.50	274 3.53					
	10.00° 3481	0° - 40° 1098 93%	10.0 ' 70 fc	3.5 ' 33 fc	18' 4'	64 0.77	76 0.98					
	15.00° 1266	0° - 60° 1137 96%	12.0 ' 49 fc	4.2 ' 23 fc	22' 4'	72 0.87	62 0.80					
	20.00° 555	0° - 80° 1149 97%	14.0 ' 36 fc	4.9 ' 17 fc				Delivered Illuminance Rating: (DIR)	83 FC per W/Sq. Ft.	78 FC per W/Sq. Ft.		
	30.00° 157	0° - 90° 1154 97%	16.0 ' 27 fc	5.6 ' 13 fc								
	40.00° 49	Total 1186 100%	20.0 ' 17 fc	7.0 ' 8 fc								
	50.00° 20		24.0 ' 12 fc	8.4 ' 6 fc								
	60.00° 9		28.0 ' 9 fc	9.8 ' 4 fc								
	70.00° 6											
	80.00° 3											
	90.00° 5											
Delivered Lumens: 1186 Luminaire Watts: 13.71 LER: 86.51	CP at 0deg (Nadir): 6992 CRI:	Beam Angle: 19.95 Spacing Ratio: 0.33	Lumen Multiplier: CCT Multiplier:									

TS - RA25 - 13L - 35HK - ND - xx -xx - MW

CANDLEPOWER CURVE TEST TSRA25-2	INTENSITY CANDELA 0° AZIMUTH	ZONAL LUMENS	SINGLE UNIT: PERFORMANCE HORIZONTAL FOOTCANDLES INITIAL DOWNLIGHT ONLY	MULTIPLE UNITS: PERFORMANCE 80/50/20% REFLECTANCES HORIZONTAL FOOTCANDLES AND WATTS/SQ FT								
	0.00°	0° - 10° 410 34%	Mounting Distance	FC at Beam Center	Diameter at Beam Angle	FC at Beam Edge	Ceiling Height	Fixture Spacing	RCR 3		RCR 5	
	0.00° 5066	0° - 20° 935 77%							FC +	W/Sq. Ft.	FC +	W/Sq. Ft.
	5.00° 4694	0° - 30° 1075 88%	8.0 ' 79 fc	3.7 ' 37 fc	14' 4'	77 0.87	77 0.95					
	10.00° 3486	0° - 40° 1127 93%	10.0 ' 51 fc	4.6 ' 23 fc	14' 4'	77 0.87	77 0.95					
	15.00° 1945	0° - 60° 1167 96%	12.0 ' 35 fc	5.6 ' 16 fc	22' 8'	17 0.20	15 0.18					
	20.00° 743	0° - 80° 1180 97%	14.0 ' 26 fc	6.5 ' 12 fc				Delivered Illuminance Rating: (DIR)	89 FC per W/Sq. Ft.		82 FC per W/Sq. Ft.	
	30.00° 130	0° - 90° 1185 97%	16.0 ' 20 fc	7.4 ' 9 fc								
	40.00° 48	Total 1217 100%	20.0 ' 13 fc	9.3 ' 6 fc								
	50.00° 22		24.0 ' 9 fc	11.2 ' 4 fc								
	60.00° 10		28.0 ' 6 fc	13.0 ' 3 fc								
	70.00° 7											
	80.00° 5											
	90.00° 4											
Delivered Lumens: 1217 Luminaire Watts: 13.65 LER: 89.16	CP at 0deg (Nadir): 5066 CRI:	Beam Angle: 26.17 Spacing Ratio: 0.43	Lumen Multiplier: CCT Multiplier:									

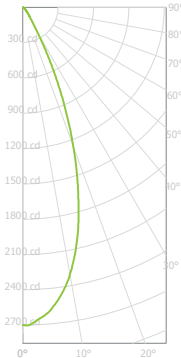
HOW TO USE PERFORMANCE DATA

SINGLE UNIT	MULTIPLE UNITS
 Cone of Light of a single, symmetrical beam luminaire. Direct initial illumination (FC) and Beam Angle diameter directly beneath fixture; shown at different distances from aperture to horizontal plane. Calculated using Inverse Square Law. $FC_H = CP \times (\cos \theta) \div D^2$ Beam Diam. = $\frac{1}{2}$ Beam Angle (Tan) x 2D • CP Candela at 0° (Nadir) • Cos θ Cosine of θ Angle • D Distance (Mounting Height AFF) • FC_H Footcandles, Horizontal • Beam Angle Cone of light to 50% max. CP • Beam Diam. Pattern of light at Beam Angle	Square grid layout of multiple luminaires in unfurnished, square rooms of different proportions (Room Cavity Ratios) with 80/50/20% room surface reflectances. 2' Suspension Length to aperture. Initial average illumination (FC) calculated at 2.5' above floor, using Zonal Cavity Method. W/Sq. Ft. of layout shown for each ceiling height and RCR. Delivered Illuminance Rating (DIR*): System performance indicator expressed as ratio of approximate initial FC per W/Sq. Ft. delivered to horizontal plane below, for the range of ceiling heights indicated. • To estimate FC for Fixture Spacing that is different than shown (do not exceed Spacing Ratio): $FC = \text{Chart Spacing}^2 \div \text{Different Spacing}^2 \times \text{Chart FC}$ • To estimate Sq. Ft. per fixture for a specific target FC: $\text{Sq. Ft.} / \text{Fixture} = \text{Chart FC} \times \text{Chart Spacing}^2 \div \text{Target FC}$ • To estimate Fixture Quantity in a room: $\text{Fixture Qty.} = \text{Sq. Ft. of Rm.} \div \text{Sq. Ft. per fixture}$ • To estimate Watts/Sq. Ft.: $W / \text{Sq. Ft.} = \text{Luminaire Watts} \times \text{Qty.} \div \text{Sq. Ft. of Rm.}$ 

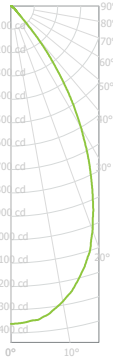
TSRA25 BET 2.5" Track Spot Luminaire with Regressed Arm



TS - RA25 - 13L - 35HK - MD - xx -xx - MW

CANDLEPOWER CURVE TEST TSRA25-1	INTENSITY CANDELA 0° AZIMUTH	ZONAL LUMENS	SINGLE UNIT: PERFORMANCE HORIZONTAL FOOTCANDLES INITIAL DOWNLIGHT ONLY	MULTIPLE UNITS: PERFORMANCE 80/50/20% REFLECTANCES HORIZONTAL FOOTCANDLES AND WATTS/SQ FT																																																																																																																			
	<table><tr><th>0.00°</th></tr><tr><td>0.00° 2699</td></tr><tr><td>5.00° 2592</td></tr><tr><td>10.00° 2305</td></tr><tr><td>15.00° 1827</td></tr><tr><td>20.00° 1251</td></tr><tr><td>30.00° 268</td></tr><tr><td>40.00° 65</td></tr><tr><td>50.00° 22</td></tr><tr><td>60.00° 9</td></tr><tr><td>70.00° 5</td></tr><tr><td>80.00° 5</td></tr><tr><td>90.00° 5</td></tr></table>	0.00°	0.00° 2699	5.00° 2592	10.00° 2305	15.00° 1827	20.00° 1251	30.00° 268	40.00° 65	50.00° 22	60.00° 9	70.00° 5	80.00° 5	90.00° 5	<table><tr><th>0° - 10°</th><td>240</td><td>20%</td></tr><tr><th>0° - 20°</th><td>738</td><td>61%</td></tr><tr><th>0° - 30°</th><td>1046</td><td>86%</td></tr><tr><th>0° - 40°</th><td>1122</td><td>93%</td></tr><tr><th>0° - 60°</th><td>1164</td><td>96%</td></tr><tr><th>0° - 80°</th><td>1176</td><td>97%</td></tr><tr><th>0° - 90°</th><td>1181</td><td>97%</td></tr><tr><th>Total</th><td>1212</td><td>100%</td></tr></table>	0° - 10°	240	20%	0° - 20°	738	61%	0° - 30°	1046	86%	0° - 40°	1122	93%	0° - 60°	1164	96%	0° - 80°	1176	97%	0° - 90°	1181	97%	Total	1212	100%	<table><tr><th>Mounting Distance</th><th>FC at Beam Center</th><th>Diameter at Beam Angle</th><th>FC at Beam Edge</th></tr><tr><td>8.0 ' </td><td>42 fc</td><td>5.6 ' </td><td>18 fc</td></tr><tr><td>10.0 ' </td><td>27 fc</td><td>7.0 ' </td><td>11 fc</td></tr><tr><td>12.0 ' </td><td>19 fc</td><td>8.3 ' </td><td>8 fc</td></tr><tr><td>14.0 ' </td><td>14 fc</td><td>9.7 ' </td><td>6 fc</td></tr><tr><td>16.0 ' </td><td>11 fc</td><td>11.1 ' </td><td>4 fc</td></tr><tr><td>20.0 ' </td><td>7 fc</td><td>13.9 ' </td><td>3 fc</td></tr><tr><td>24.0 ' </td><td>5 fc</td><td>16.7 ' </td><td>2 fc</td></tr><tr><td>28.0 ' </td><td>3 fc</td><td>19.5 ' </td><td>1 fc</td></tr></table>	Mounting Distance	FC at Beam Center	Diameter at Beam Angle	FC at Beam Edge	8.0 '	42 fc	5.6 '	18 fc	10.0 '	27 fc	7.0 '	11 fc	12.0 '	19 fc	8.3 '	8 fc	14.0 '	14 fc	9.7 '	6 fc	16.0 '	11 fc	11.1 '	4 fc	20.0 '	7 fc	13.9 '	3 fc	24.0 '	5 fc	16.7 '	2 fc	28.0 '	3 fc	19.5 '	1 fc	<table><tr><th>Ceiling Height</th><th>Fixture Spacing</th><th colspan="2">RCR 3</th><th colspan="2">RCR 5</th></tr><tr><th></th><th></th><th>FC +</th><th>W/Sq. Ft.</th><th>FC +</th><th>W/Sq. Ft.</th></tr><tr><td>14' </td><td>4' </td><td>75</td><td>0.87</td><td>74</td><td>0.94</td></tr><tr><td>18' </td><td>6' </td><td>29</td><td>0.33</td><td>23</td><td>0.30</td></tr><tr><td>22' </td><td>8' </td><td>17</td><td>0.20</td><td>14</td><td>0.18</td></tr><tr><td colspan="2">Delivered Illuminance Rating: (DIR)</td><td colspan="2">86 FC per W/Sq. Ft.</td><td colspan="2">78 FC per W/Sq. Ft.</td></tr><tr><td colspan="6">2' Suspension Length to luminous aperture Square rooms used for multiple units: RCR 3: Length & Width = Ceiling Ht. - 4.5' x 3.33 RCR 5: Length & Width = Ceiling Ht. - 4.5' x 2.00 * Average Initial Footcandles at 2.5' Above Floor</td></tr></table>	Ceiling Height	Fixture Spacing	RCR 3		RCR 5				FC +	W/Sq. Ft.	FC +	W/Sq. Ft.	14'	4'	75	0.87	74	0.94	18'	6'	29	0.33	23	0.30	22'	8'	17	0.20	14	0.18	Delivered Illuminance Rating: (DIR)		86 FC per W/Sq. Ft.		78 FC per W/Sq. Ft.		2' Suspension Length to luminous aperture Square rooms used for multiple units: RCR 3: Length & Width = Ceiling Ht. - 4.5' x 3.33 RCR 5: Length & Width = Ceiling Ht. - 4.5' x 2.00 * Average Initial Footcandles at 2.5' Above Floor					
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Delivered Lumens: 1212 Luminaire Watts: 13.64 LER: 88.86	CP at 0deg (Nadir): 2699 CRI:	Beam Angle: 38.36 Spacing Ratio: 0.62	Lumen Multiplier: CCT Multiplier:																																																																																																																				

TS - RA25 - 13L - 35HK - XW - xx -xx - MW

CANDLEPOWER CURVE TEST TSRA25-4	INTENSITY CANDELA 0° AZIMUTH	ZONAL LUMENS	SINGLE UNIT: PERFORMANCE HORIZONTAL FOOTCANDLES INITIAL DOWNLIGHT ONLY	MULTIPLE UNITS: PERFORMANCE 80/50/20% REFLECTANCES HORIZONTAL FOOTCANDLES AND WATTS/SQ FT																																																																																																																			
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Delivered Lumens: 1163 Luminaire Watts: 13.72 LER: 84.77	CP at 0deg (Nadir): 1361 CRI:	Beam Angle: 56.26 Spacing Ratio: 0.86	Lumen Multiplier: CCT Multiplier:																																																																																																																				

HOW TO USE PERFORMANCE DATA

SINGLE UNIT	MULTIPLE UNITS
Cone of Light of a single, symmetrical beam luminaire. Direct initial illumination (FC) and Beam Angle diameter directly beneath fixture; shown at different distances from aperture to horizontal plane. Calculated using Inverse Square Law. $FC_H = CP \times (\cos \theta) \div D^2$ Beam Diam. = $\frac{1}{2}$ Beam Angle (Tan) x 2D • CP Candela at 0° (Nadir) • Cos θ Cosine of θ Angle • D Distance (Mounting Height AFF) • FC_H Footcandles, Horizontal • Beam Angle Cone of light to 50% max. CP • Beam Diam. Pattern of light at Beam Angle	Square grid layout of multiple luminaires in unfurnished, square rooms of different proportions (Room Cavity Ratios) with 80/50/20% room surface reflectances. 2' Suspension Length to aperture. Initial average illumination (FC) calculated at 2.5' above floor, using Zonal Cavity Method. W/Sq. Ft. of layout shown for each ceiling heights indicated. Delivered Illuminance Rating (DIR®): System performance indicator expressed as ratio of approximate initial FC per W/Sq. Ft. delivered to horizontal plane below, for the range of ceiling heights indicated. • To estimate FC for Fixture Spacing that is different than shown (do not exceed Spacing Ratio): $FC = \text{Chart Spacing}^2 \div \text{Different Spacing}^2 \times \text{Chart FC}$ • To estimate Sq. Ft. per fixture for a specific target FC: $\text{Sq. Ft.} / \text{Fixture} = \text{Chart FC} \times \text{Chart Spacing}^2 \div \text{Target FC}$ • To estimate Fixture Quantity in a room: $\text{Fixture Qty.} = \text{Sq. Ft. of Rm.} \div \text{Sq. Ft. per fixture}$ • To estimate Watts/Sq. Ft.: $W / \text{Sq. Ft.} = \text{Luminaire Watts} \times \text{Qty.} \div \text{Sq. Ft. of Rm.}$