

**ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION**  
Values based on 9 foot mounting height.



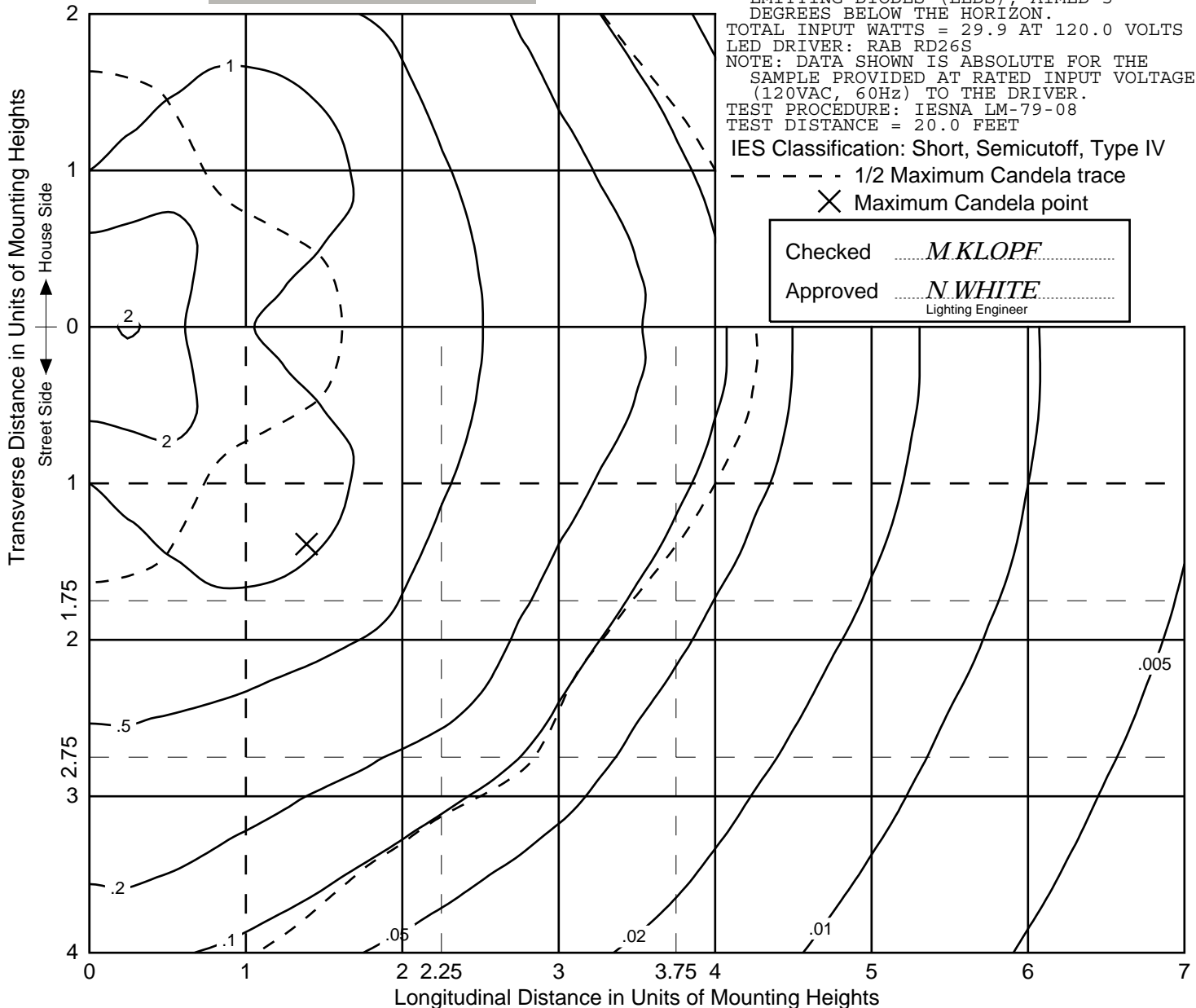
REPORT NUMBER: ITL81203  
ISSUE DATE: 04/11/14 PAGE: 1 OF 7  
PREPARED FOR: RAB LIGHTING, INC.  
CATALOG NUMBER: GLED26 OR GPLED26 (W/  
PRISMATIC LENS - CEILING OR PENDENT  
MOUNT)  
LUMINAIRE: CAST 2-PIECE BROWN PAINTED  
FINNED METAL HOUSING, 4 CAST METAL  
HEAT SINKS/CIRCUIT BOARD MOUNTING  
BRACKETS, 4 CIRCUIT BOARDS EACH WITH 1  
LED AND MOLDED PLASTIC CIRCUIT BOARD  
PERIMETER OVERLAY WITH SPECULAR  
FINISH, MOLDED PLASTIC REFLECTOR WITH  
SPECULAR FINISH AND 1 APERTURE PER  
LED, CLEAR PLASTIC DROP LENS WITH  
RADIALLY PRISMATIC BOTTOM AND  
PRISMATIC SIDES IN CAST BROWN PAINTED  
METAL FRAME. LENS RADIAL PRISMS IN,  
AND SIDE PRISMS IN AND OUT.  
LAMPS: FOUR WHITE MULTI-CHIP LIGHT  
EMITTING DIODES (LEDS), AIMED 5-  
DEGREES BELOW THE HORIZON.  
TOTAL INPUT WATTS = 29.9 AT 120.0 VOLTS  
LED DRIVER: RAB RD26S  
NOTE: DATA SHOWN IS ABSOLUTE FOR THE  
SAMPLE PROVIDED AT RATED INPUT VOLTAGE  
(120VAC, 60Hz) TO THE DRIVER.  
TEST PROCEDURE: IESNA LM-79-08  
TEST DISTANCE = 20.0 FEET

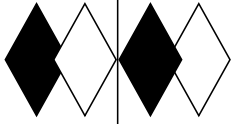
IES Classification: Short, Semicutoff, Type IV

----- 1/2 Maximum Candela trace

X Maximum Candela point

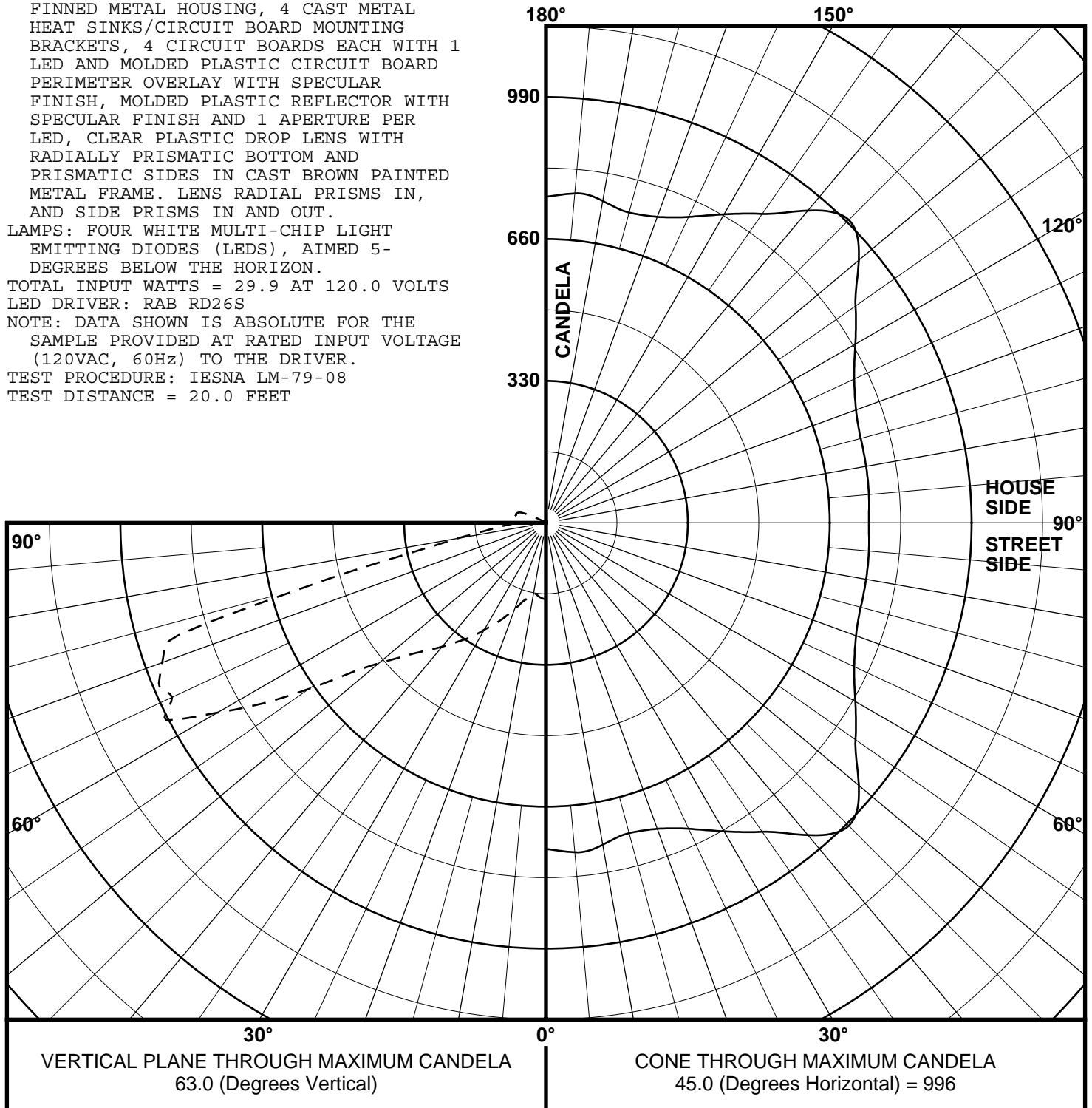
Checked ..... *M.KLOPF* .....  
Approved ..... *N.WHITE* .....  
Lighting Engineer





REPORT NUMBER: ITL81203  
 ISSUE DATE: 04/11/14 PAGE: 2 OF 7  
 PREPARED FOR: RAB LIGHTING, INC.  
 CATALOG NUMBER: GLED26 OR GPLED26 (W/  
 PRISMATIC LENS - CEILING OR PENDENT  
 MOUNT)  
 LUMINAIRE: CAST 2-PIECE BROWN PAINTED  
 FINNED METAL HOUSING, 4 CAST METAL  
 HEAT SINKS/CIRCUIT BOARD MOUNTING  
 BRACKETS, 4 CIRCUIT BOARDS EACH WITH 1  
 LED AND MOLDED PLASTIC CIRCUIT BOARD  
 PERIMETER OVERLAY WITH SPECULAR  
 FINISH, MOLDED PLASTIC REFLECTOR WITH  
 SPECULAR FINISH AND 1 APERTURE PER  
 LED, CLEAR PLASTIC DROP LENS WITH  
 RADIALLY PRISMATIC BOTTOM AND  
 PRISMATIC SIDES IN CAST BROWN PAINTED  
 METAL FRAME. LENS RADIAL PRISMS IN,  
 AND SIDE PRISMS IN AND OUT.  
 LAMPS: FOUR WHITE MULTI-CHIP LIGHT  
 EMITTING DIODES (LEDS), AIMED 5-  
 DEGREES BELOW THE HORIZON.  
 TOTAL INPUT WATTS = 29.9 AT 120.0 VOLTS  
 LED DRIVER: RAB RD26S  
 NOTE: DATA SHOWN IS ABSOLUTE FOR THE  
 SAMPLE PROVIDED AT RATED INPUT VOLTAGE  
 (120VAC, 60Hz) TO THE DRIVER.  
 TEST PROCEDURE: IESNA LM-79-08  
 TEST DISTANCE = 20.0 FEET

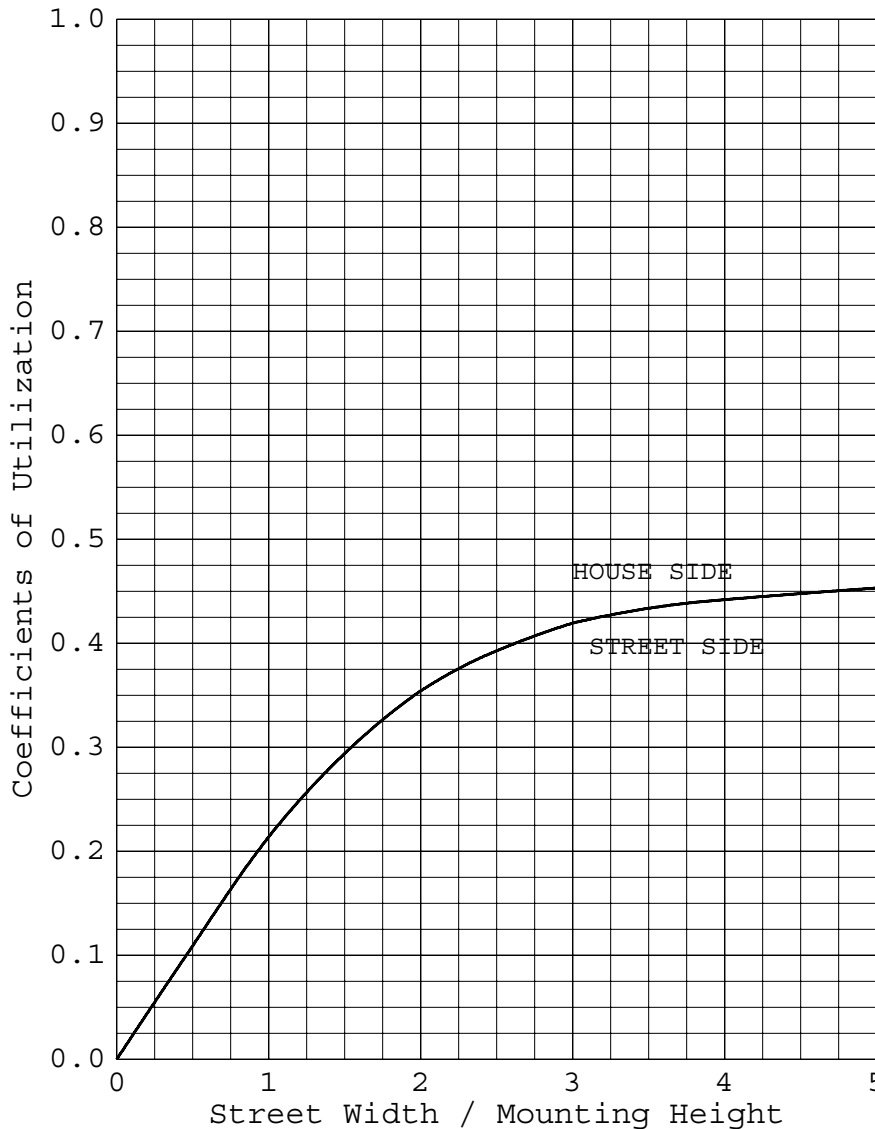
MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA



REPORT NUMBER: ITL81203  
ISSUE DATE: 04/11/14  
PREPARED FOR: RAB LIGHTING, INC.

PAGE: 3 OF 7

COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	1319	46.9
DOWNWARD HOUSE SIDE	1319	46.9
DOWNWARD TOTAL	2638	93.8
UPWARD STREET SIDE	87	3.1
UPWARD HOUSE SIDE	87	3.1
UPWARD TOTAL	174	6.2
TOTAL FLUX	2812	100.0

EFFICACY = 94.0 lm/W

ALL CANDELA AND LUMENS IN THIS REPORT ARE BASED ON ABSOLUTE PHOTOMETRY. THE COEFFICIENT OF UTILIZATION VALUES ARE BASED ON THE TOTAL ABSOLUTE LUMEN OUTPUT OF THIS LUMINAIRE SAMPLE.



INDEPENDENT TESTING LABORATORIES, INC.  
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303) 442-1255 • FAX: (970) 535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL81203  
ISSUE DATE: 04/11/14  
PREPARED FOR: RAB LIGHTING, INC.

PAGE: 4 OF 7

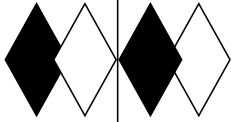
FLUX DISTRIBUTION BY SOLID ANGLE

(PER IESNA TM-15-11, LUMINAIRE CLASSIFICATION SYSTEM FOR OUTDOOR LUMINAIRES)

	LUMENS	PERCENT OF FIXTURE	BUG ZONE RATINGS
FORWARD LIGHT	1319.	46.9	
FL ( 0- 30)	91.5	3.3	
FM ( 30- 60)	460.3	16.4	
FH ( 60- 80)	703.4	25.0	G1
FVH( 80- 90)	63.8	2.3	G1
BACK LIGHT	1319.	46.9	
BL ( 0- 30)	91.5	3.3	B0
BM ( 30- 60)	460.3	16.4	B1
BH ( 60- 80)	703.4	25.0	B2 G1
BVH( 80- 90)	63.8	2.3	G1
UPLIGHT	174.	6.2	
UL ( 90-100)	69.3	2.5	U3
UH (100-180)	104.3	3.7	U3
TRAPPED LIGHT	0.	0.0	
TOTAL FLUX	2812.	100.0	

BACKLIGHT, UPLIGHT, AND GLARE (BUG) RATINGS  
(PER ADDENDUM A FOR IESNA TM-15-11)

BUG RATING: B2 U3 G1



REPORT NUMBER: ITL81203  
 ISSUE DATE: 04/11/14  
 PREPARED FOR: RAB LIGHTING, INC.

PAGE: 5 OF 7

CANDELA TABULATION

	LATERAL ANGLE											
	0.0	5.0	15.0	25.0	35.0	45.0	55.0	65.0	75.0	85.0	90.0	
	180.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	175.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	165.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	155.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	145.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	135.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	125.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	115.0	39.	38.	37.	39.	41.	42.	41.	39.	38.	37.	39.
	105.0	63.	62.	62.	63.	66.	72.	68.	65.	64.	64.	65.
	95.0	58.	58.	59.	61.	63.	65.	64.	62.	60.	59.	58.
	92.5	58.	58.	59.	60.	62.	64.	62.	60.	59.	58.	58.
	90.0	65.	66.	67.	68.	70.	70.	70.	68.	66.	65.	64.
	87.5	84.	84.	84.	84.	84.	84.	84.	83.	83.	83.	82.
	85.0	109.	110.	108.	107.	107.	109.	107.	106.	107.	109.	107.
V	82.5	146.	146.	143.	140.	140.	143.	140.	138.	140.	145.	143.
E	80.0	207.	209.	210.	201.	201.	207.	199.	196.	207.	207.	204.
R	77.5	418.	408.	370.	318.	312.	323.	304.	312.	352.	393.	388.
T	75.0	815.	842.	664.	554.	532.	588.	520.	560.	657.	792.	777.
I	72.5	827.	857.	757.	692.	747.	926.	741.	694.	760.	894.	852.
C	70.0	838.	851.	768.	746.	831.	950.	805.	735.	758.	830.	832.
A	67.5	803.	826.	820.	851.	892.	975.	878.	831.	809.	792.	787.
L	65.0	803.	828.	827.	832.	912.	960.	905.	824.	822.	803.	790.
	63.0<<	758.	769.	747.	785.	877.	996.	879.	791.	758.	754.	751.
A	62.5	739.	747.	718.	770.	872.	995.	873.	779.	732.	734.	736.
N	60.0	584.	584.	572.	663.	830.	883.	836.	681.	591.	589.	598.
G	57.5	420.	433.	479.	555.	689.	781.	709.	564.	487.	445.	435.
L	55.0	336.	348.	430.	498.	576.	673.	587.	502.	433.	362.	358.
E	52.5	276.	288.	379.	443.	510.	573.	517.	446.	379.	305.	299.
	50.0	224.	242.	347.	408.	475.	509.	470.	404.	349.	253.	236.
	47.5	213.	228.	328.	384.	452.	464.	443.	381.	328.	236.	222.
	45.0	229.	237.	314.	369.	426.	428.	414.	366.	316.	248.	241.
	42.5	240.	245.	306.	358.	402.	400.	388.	356.	309.	257.	253.
	40.0	250.	257.	301.	344.	380.	376.	369.	341.	303.	268.	263.
	37.5	269.	275.	296.	329.	360.	352.	350.	325.	296.	285.	282.
	35.0	279.	283.	290.	317.	339.	331.	328.	314.	290.	290.	288.
	30.0	275.	276.	275.	282.	292.	287.	286.	280.	273.	274.	275.
	25.0	236.	238.	242.	249.	251.	250.	246.	242.	239.	233.	231.
	20.0	206.	207.	214.	216.	214.	214.	209.	208.	207.	199.	198.
	15.0	183.	183.	187.	187.	185.	185.	182.	180.	179.	174.	174.
	10.0	168.	168.	168.	169.	169.	168.	166.	164.	161.	160.	160.
	5.0	172.	172.	172.	173.	174.	173.	172.	171.	170.	170.	170.
	0.0	178.	178.	178.	178.	178.	178.	178.	178.	178.	178.	178.

PLANE OF MAXIMUM CANDELA

CONE OF MAXIMUM CANDELA



INDEPENDENT TESTING LABORATORIES, INC.  
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303) 442-1255 • FAX: (970) 535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL81203  
ISSUE DATE: 04/11/14  
PREPARED FOR: RAB LIGHTING, INC.

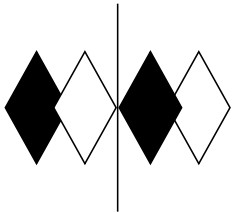
PAGE: 6 OF 7

5-DEGREE  
ZONAL LUMEN SUMMARY

0- 5	4
5- 10	12
10- 15	21
15- 20	32
20- 25	48
25- 30	66
30- 35	87
35- 40	106
40- 45	124
45- 50	146
50- 55	188
55- 60	269
60- 65	384
65- 70	426
70- 75	393
75- 80	204
80- 85	81
85- 90	47
90- 95	34
95-100	35
100-105	36
105-110	33
110-115	27
115-120	9
120-125	0
125-130	0
130-135	0
135-140	0
140-145	0
145-150	0
150-155	0
155-160	0
160-165	0
165-170	0
170-175	0
175-180	0

10-DEGREE  
ZONAL LUMEN SUMMARY

0- 10	16
0- 20	69
0- 30	183
0- 40	376
0- 50	647
0- 60	1104
0- 70	1914
0- 80	2510
0- 90	2638
0-100	2707
0-110	2776
0-120	2812
0-130	2812
0-140	2812
0-150	2812
0-160	2812
0-170	2812
0-180	2812



**itl boulder**  
THE LIGHT CENTER OF THE INDUSTRY SINCE 1955



NVLAP LAB CODE: 200925-0

INDEPENDENT TESTING LABORATORIES, INC.  
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303) 442-1255 • FAX: (970) 535-3114 • E-MAIL: [itl@itlboulder.com](mailto:itl@itlboulder.com) • WEBSITE: [www.itlboulder.com](http://www.itlboulder.com)

REPORT NUMBER: ITL81203  
ISSUE DATE: 04/11/14  
PREPARED FOR: RAB LIGHTING, INC.

PAGE: 7 OF 7

ADDRESS: 170 LUDLOW AVE  
NORTHVALE, NJ 07647

THIS ITL REPORT WITH THE USE OF THE NVLAP LOGO SHALL NOT BE USED BY THE CLIENT TO CLAIM PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY NVLAP, NIST, OR ANY AGENCY OF THE FEDERAL GOVERNMENT.



INDEPENDENT TESTING LABORATORIES, INC.  
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303)442-1255 • FAX: (970)535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

Page 1 of 4

REPORT NUMBER: ITL81206  
DATE: 04/14/14  
PREPARED FOR: RAB LIGHTING, INC.  
CATALOG NUMBER: GLED26 OR GPLED26 (W/ PRISMATIC LENS - CEILING OR PENDENT MOUNT)

ADDRESS: 170 LUDLOW AVE  
NORTHVALE, NJ 07647

LUMINAIRE: CAST 2-PIECE BROWN PAINTED FINNED METAL HOUSING, 4 CAST METAL HEAT SINKS/CIRCUIT BOARD MOUNTING BRACKETS, 4 CIRCUIT BOARDS EACH WITH 1 LED AND MOLDED PLASTIC CIRCUIT BOARD PERIMETER OVERLAY WITH SPECULAR FINISH, MOLDED PLASTIC REFLECTOR WITH SPECULAR FINISH AND 1 APERTURE PER LED, CLEAR PLASTIC DROP LENS WITH RADIALLY PRISMATIC BOTTOM AND PRISMATIC SIDES IN CAST BROWN PAINTED METAL FRAME. LENS RADIAL PRISMS IN, AND SIDE PRISMS IN AND OUT.

LAMP: FOUR WHITE MULTI-CHIP LIGHT EMITTING DIODES (LEDS), AIMED 5-DEGREES BELOW THE HORIZON.

DRIVER: RAB RD26S

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (120.0 AND 277.0 VAC, 60Hz) TO THE DRIVER.

INSTRUMENTS:	Associated Power Technologies APT5040 AC Power Source	Calibration Due:
	Yokogawa WT210 Digital Power Meter #8	N/A
	Ocean Optics QE65000 Spectroradiometer	12/31/14
	ITL 2.0m Diameter Integrating Sphere S20-2, 4PI Geometry	10/16/14

OBJECT OF TEST: Measure the Total Radiant Flux\*, Spectral Power Distribution (SPD), Correlated Color Temperature (CCT), Color Rendering Indices (CRIa,1-14), Chromaticity Coordinates (x,y; u'v'), ANSI C78.377 Duv, and electrical data including ANSI C82.77-2002 Power Factor (PF) and Total Harmonic Distortion (THD) to the test sample. Report Off-State Power. Measure electrical data including Total Harmonic Distortion (THD) at maximum rated voltage.

PROCEDURE: The test sample was provided by the customer and had an unknown number of operating hours. The test sample was mounted inside the integrating sphere and allowed to stabilize. After stabilization occurred, measurements were taken. In order to measure mean performance, multiple data sets were recorded and averaged. Readings were taken with the test sample operating at 120.0 VAC input. Electrical data was also recorded at maximum nominal rated input voltage (277.0 VAC). All testing performed in a 25 +/-1 degree Celsius free air ambient and in accordance with IESNA LM-79-08. All data are traceable to the National Institute of Standards and Technology. Off-State Power was reported with no voltage applied to the sample.

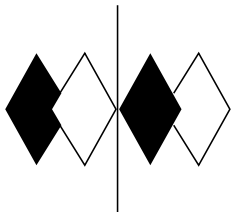
\*NOTE: Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even when these effects are compensated for, are likely to have a greater variation in results compared to the flux output calculated from a goniophotometric exploration since these artifacts do not affect the goniophotometric results.

RESULTS: (continued subsequent pages)

THIS ITL REPORT WITH THE USE OF THE NVLAP LOGO SHALL NOT BE USED BY THE CLIENT TO CLAIM PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY NVLAP, NIST, OR ANY AGENCY OF THE FEDERAL GOVERNMENT.

Checked	<i>N THOMAS</i>
Approved	<i>P O'CONNOR</i> Sphere Lab Supervisor





**itl boulder**  
 THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

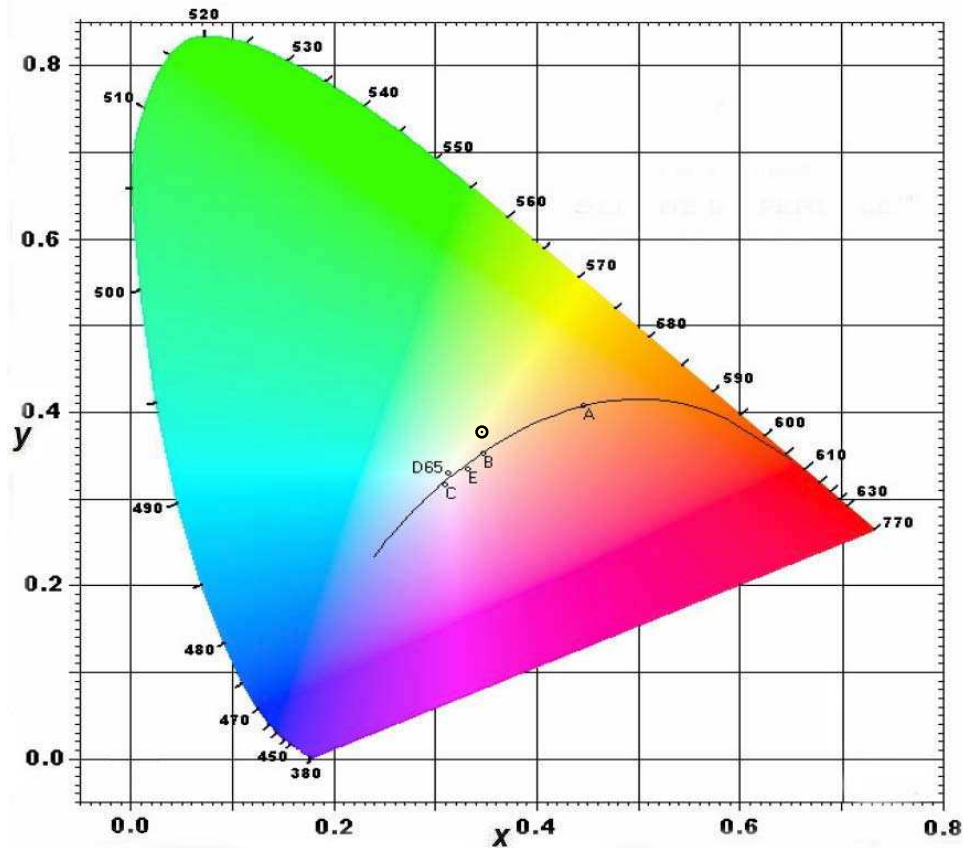


NVLAP LAB CODE: 200925-0

INDEPENDENT TESTING LABORATORIES, INC.  
 4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303)442-1255 • FAX: (970)535-3114 • E-MAIL: [itl@itlboulder.com](mailto:itl@itlboulder.com) • WEBSITE: [www.itlboulder.com](http://www.itlboulder.com)  
 REPORT NUMBER: ITL81206  
 DATE: 04/14/14  
 PREPARED FOR: RAB LIGHTING, INC.  
 CATALOG NUMBER: GLED26 OR GPLED26 (W/ PRISMATIC LENS - CEILING OR PENDENT MOUNT)

### CIE Chromaticity Diagram





INDEPENDENT TESTING LABORATORIES, INC.  
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303)442-1255 • FAX: (970)535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com  
 REPORT NUMBER: ITL81206  
 DATE: 04/14/14  
 PREPARED FOR: RAB LIGHTING, INC.  
 CATALOG NUMBER: GLED26 OR GPLED26 (W/ PRISMATIC LENS - CEILING OR PENDENT MOUNT)

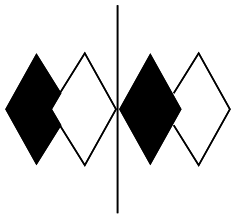
RESULTS:

SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.3456
Chromaticity Ordinate y	0.3769
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2024
Chromaticity Ordinate v'	0.4965
Correlated Color Temp CCT (K)	5058
ANSI C78.377-2008 Duv	0.012
Total Radiant Flux (milliWatts)	8101 *
ELECTRICAL	
Input Voltage (Volts AC)	120.0
Input Current (Amps AC)	0.251
Input Power (Watts)	30.0
Input Power Factor (%)	99.6
Input Current THD (%)	7.9
Input Voltage THD (%)	0.1
Off-State Power (Watts)	
	0.0
ELECTRICAL AT MAX NONIMAL INPUT	
Input Voltage (Volts AC)	277.0
Input Current (Amps AC)	0.120
Input Power (Watts)	29.8
Input Power Factor (%)	89.7
Input Current THD (%)	10.8
Input Voltage THD (%)	0.1

COLOR RENDERING INDICES	CRI
Ra (Average 1-8)	69
R1 Light greyish red	64
R2 Dark greyish yellow	74
R3 Strong yellowish green	81
R4 Moderate yellowish green	68
R5 Light bluish green	65
R6 Light blue	64
R7 Light violet	83
R8 Light reddish purple	54
R9 Strong red	-41
R10 Strong yellow	38
R11 Strong green	62
R12 Strong blue	32
R13 Light yellowish pink (skin)	66
R14 Moderate olive green (leaf)	89

\*NOTE:

Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even when these effects are compensated for, are likely to have a greater variation in results compared to the flux output calculated from a goniophotometric exploration since these artifacts do not affect the goniophotometric results.



PHONE: (303)442-1255 • FAX: (970)535-3114 • E-MAIL: [itl@itlboulder.com](mailto:itl@itlboulder.com) • WEBSITE: [www.itlboulder.com](http://www.itlboulder.com)  
 REPORT NUMBER: ITL81206  
 DATE: 04/14/14  
 PREPARED FOR: RAB LIGHTING, INC.  
 CATALOG NUMBER: GLED26 OR GPLED26 (W/ PRISMATIC LENS - CEILING OR PENDENT MOUNT)

RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	0.205	515	30.616	650	17.219
385	0.217	520	36.121	655	15.603
390	0.229	525	40.532	660	14.102
395	0.266	530	43.820	665	12.662
400	0.341	535	45.952	670	11.330
405	0.504	540	47.289	675	10.103
410	0.880	545	48.030	680	9.002
415	1.677	550	48.362	685	8.000
420	3.204	555	48.283	690	7.083
425	5.946	560	47.972	695	6.259
430	10.642	565	47.486	700	5.536
435	17.769	570	46.683	705	4.881
440	27.849	575	45.584	710	4.308
445	43.822	580	44.338	715	3.798
450	62.200	585	42.987	720	3.350
455	63.394	590	41.464	725	2.949
460	44.811	595	39.787	730	2.589
465	28.801	600	37.975	735	2.272
470	20.216	605	35.965	740	1.997
475	13.955	610	33.807	745	1.764
480	9.874	615	31.536	750	1.561
485	8.300	620	29.271	755	1.378
490	8.316	625	26.974	760	1.218
495	9.793	630	24.745	765	1.070
500	13.188	635	22.691	770	0.943
505	18.308	640	20.719	775	0.833
510	24.485	645	18.913	780	0.734

