

**FEDERAL AVIATION ADMINISTRATION  
FLIGHT STANDARDS SERVICE  
RNAV (GPS) STANDARD INSTRUMENT APPROACH PROCEDURE  
TITLE 14 CFR PART 97.33**

Bearings, headings, courses, tracks and radials are magnetic. Elevations and altitudes are in feet, MSL, except HAT, HAA, TCH, and RA. Altitudes are minimum altitudes unless otherwise indicated.  
Ceilings are in feet above airport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or feet RVR.

<u>AIRPORT ID</u> KLWM	<u>PROCEDURE NAME</u> RNAV (GPS) RWY 14	<u>ORIGINAL/AMENDMENT</u> ORIG	<u>CITY</u> LAWRENCE	<u>STATE</u> MA		
<u>AIRPORT ELEVATION</u> 148	<u>TDZE</u> 146	<u>SUPERSEDED</u>	<u>ORIGINAL/AMENDMENT</u> NONE	<u>DATED</u>	<u>MAG VAR</u> 15W	<u>EPOCH YEAR</u> 1980
<u>FACILITY</u> RNAV	<u>COORDINATES OF FACILITIES</u>	<u>ACTUAL EFFECTIVE DATE</u>	<u>REQUIRED EFFECTIVE DATE</u> ROUTINE	<u>CANCEL/SUSPEND</u>		

**TERMINAL ROUTES**

<u>FROM</u>	<u>FIX TYPE</u>	<u>TO</u>	<u>FIX TYPE</u>	<u>LEG TYPE</u>	<u>FO/FB</u>	<u>RNP</u>	<u>COURSE</u>	<u>DISTANCE</u>	<u>ALTITUDE</u>
KHRIS	IAF	ROUAN		TF	FB	1.00	204.95	4.72	2000
CARED	IAF	ROUAN		TF	FB	1.00	243.38	5.31	2000
ROUAN	IF	BRYSL		TF	FB	1.00	175.23	4.32	2000
BRYSL		MSAAD		TF	FB	1.00	166.32	3.24	1500
MSAAD	FAF	RW14	MAP	TF	FO	0.30	136.63	4.19	
RW14	MAP	548 MSL		CA			136.63		
548 MSL		WITCH		DF	FO	1.00			2000

**MISSED APPROACH**

**MAP:**

LP: RW14  
LNAV: RW14

**MISSED APPROACH INSTRUCTIONS:**

CLIMBING LEFT TURN TO 2000 DIRECT WITCH AND HOLD.

**ALTERNATE MISSED APPROACH INSTRUCTIONS:**





AIRPORT ID  
KLWM

PROCEDURE NAME  
RNAV (GPS) RWY 14

ORIGINAL/AMENDMENT  
ORIG

CITY  
LAWRENCE

STATE  
MA

COORDINATED WITH:

A4A ☒ ALPA ☒ AOPA ☒ APA ☒ HAI ☐ NBAA ☒ OTHER: ZBW ARTCC, BOS APP CON. LWN TOWER, AMGR

FLIGHT CHECKED BY

OFFICE

DATE

DEVELOPED BY

JASON KRETSCHMER (COLIN CAMPBELL)

*Digitally signed by*

**JASON KRETSCHMER**

OFFICE

AJV-A421

DATE

02/06/2022

APPROVED BY

MARLON ROBINSON

May 10, 2022

OFFICE

AJV-A420

DATE

TITLE

MANAGER

*Digitally signed by*

**JASON KRETSCHMER**

May 10, 2022



FAS DATA BLOCK INFORMATION

<u>DATA FIELD</u>	<u>DATA</u>
OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	KLWM
RUNWAY	RW14
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W14A
LTP/FTP LATITUDE	424315.5615N
LTP/FTP LONGITUDE	0710746.3345W
LTP/FTP ELLIPSOIDAL HEIGHT	+00097
FPAP LATITUDE	424228.7225N
FPAP LONGITUDE	0710603.5085W
THRESHOLD CROSSING HEIGHT (TCH)	00045.0
TCH UNITS SELECTOR (METERS OR FEET USED)	F
GLIDEPATH ANGLE (GPA)	03.00
COURSE WIDTH AT THRESHOLD	106.75
LENGTH OFFSET	1640
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	0.0
CRC REMAINDER	BCDBC7B6

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K6
LTP ORTHOMETRIC HEIGHT	+00370
FPAP ORTHOMETRIC HEIGHT	+00370



FEDERAL AVIATION ADMINISTRATION  
FLIGHT STANDARDS SERVICE  
STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD

<u>AIRPORT ID</u> KLWM	<u>PROCEDURE NAME</u> RNAV (GPS) RWY 14	<u>AMDT NO.</u> ORIG	<u>CITY</u> LAWRENCE	<u>STATE</u> MA	<u>AIRPORT ELEVATION</u> 148	<u>FACILITY</u> RNAV
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PART A: OBSTRUCTION DATA SEGMENTS

INITIAL

FROM  
KHRIS

TO  
ROUAN

<u>RNP</u>	<u>DISTANCE</u> 4.72	<u>PAT</u>	<u>MAP</u>	<u>HAT</u>	<u>HMAS</u>							
<u>OBSTRUCTION</u>	<u>COORDINATES</u>		<u>ELEV MSL</u>	<u>HORZ</u>	<u>VERT</u>	<u>AC</u>	<u>ROC</u>	<u>OCS</u>	<u>CG</u>	<u>CGTA</u>	<u>ADJUSTMENTS</u>	<u>MIN ALT</u>
TOWER (33-000099)	425705.17N/0711604.36W		985	50	20	2C	1000					2000
TERRAIN	425703.00N/0711754.00W		643 (600)								AS1000	1600

COMPUTATIONS

<u>ALT</u>	<u>KIAS</u>	<u>KTAS</u>	<u>HAA</u>	<u>VKTW</u>	<u>TR</u>	<u>BA</u>	<u>DTA</u>	<u>COURSE CHANGE</u>	<u>DVEB</u>	<u>VEB OCS</u>	<u>RF CENTER FIX/DISTANCE</u>
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SEGMENT REMARKS:

INITIAL

FROM  
CARED

TO  
ROUAN

<u>RNP</u>	<u>DISTANCE</u> 5.31	<u>PAT</u>	<u>MAP</u>	<u>HAT</u>	<u>HMAS</u>							
<u>OBSTRUCTION</u>	<u>COORDINATES</u>		<u>ELEV MSL</u>	<u>HORZ</u>	<u>VERT</u>	<u>AC</u>	<u>ROC</u>	<u>OCS</u>	<u>CG</u>	<u>CGTA</u>	<u>ADJUSTMENTS</u>	<u>MIN ALT</u>
TOWER (33-000018)	425518.84N/0711331.20W		810	50	20	2C	1000				AT190	2000
TERRAIN	425309.00N/0711600.00W		603 (600)								AS1000	1600

COMPUTATIONS

<u>ALT</u>	<u>KIAS</u>	<u>KTAS</u>	<u>HAA</u>	<u>VKTW</u>	<u>TR</u>	<u>BA</u>	<u>DTA</u>	<u>COURSE CHANGE</u>	<u>DVEB</u>	<u>VEB OCS</u>	<u>RF CENTER FIX/DISTANCE</u>
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SEGMENT REMARKS:



INTERMEDIATE

FROM

ROUAN

TO

BRYSL

RNP	DISTANCE	PAT	MAP	HAT			HMAS					
	4.32											
OBSTRUCTION	COORDINATES		ELEV MSL	HORZ	VERT	AC	ROC	OCS	CG	CGTA	ADJUSTMENTS	MIN ALT
TOWER (33-023160)	424900.40N/0711611.50W		869	50	20	2C	500				AT631	2000
TERRAIN	425224.00N/0711657.00W		551 (600)								AS1000	1600

COMPUTATIONS												
ALT	KIAS	KTAS	HAA	VKTW	TR	BA	DTA	COURSE CHANGE	DVEB	VEB OCS	RF CENTER FIX/DISTANCE	

SEGMENT REMARKS:

INTERMEDIATE: STEPDOWN

FROM

BRYSL

TO

MSAAD

RNP	DISTANCE	PAT	MAP	HAT			HMAS					
	3.24											
OBSTRUCTION	COORDINATES		ELEV MSL	HORZ	VERT	AC	ROC	OCS	CG	CGTA	ADJUSTMENTS	MIN ALT
AAO	424857.00N/0711603.00W		696	164	98	4E	500				AT206 AC98	1500
TERRAIN	424715.00N/0711121.00W		367 (400)								AS1000	1400

COMPUTATIONS												
ALT	KIAS	KTAS	HAA	VKTW	TR	BA	DTA	COURSE CHANGE	DVEB	VEB OCS	RF CENTER FIX/DISTANCE	

SEGMENT REMARKS:



FINAL: LP

FROM

MSAAD

TO

RW14

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>	<u>HAT</u>			<u>HMAS</u>				
	4.19		RW14			434					
<u>OBSTRUCTION</u>	<u>COORDINATES</u>	<u>ELEV MSL</u>	<u>HORZ</u>	<u>VERT</u>	<u>AC</u>	<u>ROC</u>	<u>OCS</u>	<u>CG</u>	<u>CGTA</u>	<u>ADJUSTMENTS</u>	<u>MIN ALT</u>
AAO	424436.62N/0711157.34W	330	50	20	2C	250					580

COMPUTATIONS

ALT	KIAS	KTAS	HAA	VKTW	TR	BA	DTA	COURSE CHANGE	DVEB	VEB OCS	RF CENTER FIX/DISTANCE
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SEGMENT REMARKS:

FINAL: LNAV

FROM

MSAAD

TO

RW14

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>	<u>HAT</u>			<u>HMAS</u>				
	4.19		RW14			514					
<u>OBSTRUCTION</u>	<u>COORDINATES</u>	<u>ELEV MSL</u>	<u>HORZ</u>	<u>VERT</u>	<u>AC</u>	<u>ROC</u>	<u>OCS</u>	<u>CG</u>	<u>CGTA</u>	<u>ADJUSTMENTS</u>	<u>MIN ALT</u>
TREE (25-049065)	424457.70N/0711001.64W	408	20	10	1B	250					660

COMPUTATIONS

ALT	KIAS	KTAS	HAA	VKTW	TR	BA	DTA	COURSE CHANGE	DVEB	VEB OCS	RF CENTER FIX/DISTANCE
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SEGMENT REMARKS:



MISSED APPROACH : LP

FROM

RW14

TO

WITCH

RNP	DISTANCE	PAT	MAP	HAT			HMAS 480					
OBSTRUCTION	COORDINATES		ELEV MSL	HORZ	VERT	AC	ROC	OCS	CG	CGTA	ADJUSTMENTS	MIN ALT
								ASC				2000
TOWER (25-000108)	424225.00N/0710052.00W		604	250	50	4D	1000					1700
TERRAIN	424227.00N/0710054.00W		347 (300)								AS1500	1800

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:

MISSED APPROACH : LNAV

FROM

RW14

TO

WITCH

RNP	DISTANCE	PAT	MAP	HAT			HMAS 560					
OBSTRUCTION	COORDINATES		ELEV MSL	HORZ	VERT	AC	ROC	OCS	CG	CGTA	ADJUSTMENTS	MIN ALT
								ASC				2000
TOWER (25-000108)	424225.00N/0710052.00W		604	250	50	4D	1000					1700
TERRAIN	424227.00N/0710054.00W		347 (300)								AS1500	1800

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:





AIRPORT ID

KLWM

PROCEDURE NAME

RNAV (GPS) RWY 14

AMDT NO.

ORIG

CITY

LAWRENCE

STATE

MA

AIRPORT ELEVATION

148

FACILITY

RNAV

CIRCLING

☐ ALL CATS

☒ CAT A

☒ CAT B

☒ CAT C

☒ CAT D

☐ CAT E

☐ NOT AUTHORIZED

OBSTRUCTION	COORDINATES	RADIUS	HAA	ELEV MSL	HORZ	VERT	AC	ROC	OCS	ADJUSTMENTS	MIN ALT
CATEGORY A											
TREE (25-049075)	424224.11N/0710632.48W	1.30	592	428	20	10	1B	300			740
CATEGORY B											
TREE (25-049075)	424224.11N/0710632.48W	1.81	592	428	20	10	1B	300			740
CATEGORY C											
ANTENNA (25-049067)	424008.14N/0710631.65W	2.84	692	531	20	10	1B	300			840
CATEGORY D											
TOWER (25-000052)	424621.70N/0710559.40W	3.72	1072	864	250	50	4D	300		AC50	1220

CIRCLING REMARKS:

MSA

CENTER

RW14

RADIUS

25

SECTOR	OBSTRUCTION	COORDINATES	BEARING	DISTANCE	ELEV MSL	HORZ	VERT	AC	ROC	OCS	ADJUSTMENTS	MIN ALT
360-360	AAO	431042.00N/0711806.00W	360	28.5	1559	164	98	4E	1000			2600

MSA REMARKS:

NOTES/EXPLANATIONS FROM PROCEDURE SEGMENTS:



PART B: SUPPLEMENTAL DATA

COMMUNICATIONS WITH  
BOS APP CON, LWM TOWER

<u>WX SERVICE</u> ASOS	<u>LOCATION</u> KLWM	<u>HRS OPERATION</u> 24	<u>ALTIMETER SOURCE</u> KLWM	<u>DISTANCE</u> 0	<u>SERVICE-A</u> Y	<u>ADJUSTMENTS</u> 0
<u>BACK-UP WX SERVICE</u>	<u>LOCATION</u>	<u>HRS OPERATION</u>	<u>ALTIMETER SOURCE</u>	<u>DISTANCE</u>	<u>SERVICE-A</u>	<u>ADJUSTMENTS</u>

WX REMARKS:  
BACK-UP ALTIMETER NOT PUBLISHED - REDUNDANT SOURCES ON AIRPORT.

<u>PRIMARY NAVAID</u>	<u>MONITOR POINT</u>	<u>HRS OPERATION</u>	<u>CAT</u>
<u>APPROACH AND RUNWAY LIGHTING SYSTEM</u>		<u>RUNWAY MARKINGS</u>	<u>RUNWAY VISUAL RANGE</u>
RW14 - MIRL (PCL)		BSC-G	
RW32 - MIRL (PCL), REIL (PCL), PAPI-4L (PCL)		BSC-G	
RW5 - HIRL (PCL), REIL (PCL), PAPI-4R (PCL)		PIR-G	
RW23 - HIRL (PCL), REIL (PCL), PAPI-4L (PCL)		PIR-G	

<u>GLIDESLOPE ANGLE</u>	<u>ELEV RWY THRESHOLD</u>	<u>TCH</u>	<u>ELEV GS ANTENNA</u>	<u>DISTANCE FROM RWY</u>	<u>VGSI ANGLE</u>	<u>TCH</u>
<u>FINAL APPROACH COURSE AIMING</u>						
RUNWAY THRESHOLD	<input checked="" type="checkbox"/>	FT FROM THRESHOLD	DISPLACED THRESHOLD DISTANCE			
ON CENTERLINE	<input checked="" type="checkbox"/>	FT FROM CENTERLINE				
<u>CRITICAL TEMPERATURES</u>						
<u>CRITICAL LOW</u>	<u>CRITICAL HIGH</u>	<u>ACT</u>	<u>APT ISA</u>			

CRITICAL TEMPERATURE REMARKS:



<b>AIRPORT ID</b> KLWM	<b>PROCEDURE NAME</b> RNAV (GPS) RWY 14	<b>AMDT NO.</b> ORIG	<b>CITY</b> LAWRENCE	<b>STATE</b> MA	<b>AIRPORT ELEVATION</b> 148	<b>FACILITY</b> RNAV
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**"VISUAL PORTION OF FINAL" PENETRATIONS**

Final Type	CIRCLING RWY 32				
20:1					
172 TREE (25-057258) 424253.62N/0710703.09W (17.63)			325 TREE (25-057245) 424233.75N/0710629.94W (12.49)		
328 TREE (25-057880) 424232.54N/0710629.23W (10.01)			322 TREE (25-020950) 424233.41N/0710630.19W (9.38)		
170 TREE (25-056984) 424253.88N/0710659.51W (4.95)			165 BUILDING (25-020932) 424253.97N/0710700.84W (4.41)		
165 BUILDING (25-055923) 424253.36N/0710701.04W (3.43)			171 POLE (25-055849) 424252.11N/0710700.06W (2.99)		
173 POLE (25-056917) 424252.79N/0710658.73W (2.57)			308 TREE (25-058261) 424234.12N/0710631.78W (2.32)		
161 TREE (25-056891) 424256.63N/0710659.07W (1.87)			192 TREE (25-055969) 424250.02N/0710654.83W (1.82)		
156 TREE (25-055892) 424254.50N/0710702.40W (1.78)			159 VEGETATION (25-020933) 424254.86N/0710700.63W (0.11)		
310 TREE (25-056916) 424234.50N/0710630.11W (0.02)					

**HELICOPTER 'VISUAL PORTION OF FINAL' PENETRATIONS**

and/or

**5280-FT "PROCEED VFR" SEGMENT LEVEL SURFACE AREA PENETRATIONS**

**PENETRATIONS REMARKS:**

**PART C: GENERAL REMARKS:**

90 FOOT VEGETATION USED PER FPT.

ORDER 8260.3 CHAPTER 2 APPLIED TO 380 AAO 424603.68N/0711115.02W.  
ORDER 8260.3 CHAPTER 2 APPLIED TO 480 AAO 424657.94N/0711100.08W.

ORDER 8260.3, CHAPTER 2, NEW CIRCLING CRITERIA APPLIED.



<u>AIRPORT ID</u> KLWM	<u>PROCEDURE NAME</u> RNAV (GPS) RWY 14	<u>AMDT NO.</u> ORIG	<u>CITY</u> LAWRENCE	<u>STATE</u> MA	<u>AIRPORT ELEVATION</u> 148	<u>FACILITY</u> RNAV
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PART D: AIRSPACE

DOCKET #

ALL DISTANCES TO 1/100NM; ELEVATION TO NEAREST 100 FEET; COORDINATES TO 1/100 SECOND; DEG TO 1/100 DEGREE

DISTANCE FROM	THLD	TO 1000FT POINT	3.86
WIDTH OF	FINAL	SEGMENT AT 1000FT POINT	1.82
TRUE COURSE OF	FINAL	SEGMENT CONTAINING 1000FT POINT	121.63
HIGH TERRAIN IN	FINAL	SEGMENT CONTAINING 1000FT POINT	400
DISTANCE FROM	THLD	TO 1500FT POINT	16.47
WIDTH OF	INITIAL	SEGMENT AT 1500FT POINT	4.00
TRUE COURSE OF	INITIAL	SEGMENT CONTAINING 1500FT POINT	189.95
HIGH TERRAIN IN	INITIAL	SEGMENT CONTAINING 1500FT POINT	600

THRESHOLD  
COORDINATES  
(IF STR-IN)

424315.56N/0710746.33W

ARP COORDINATES

424301.35N/0710724.72W

RUNWAY APCH END  
AND DIST FURTHEST  
FROM ARP

RUNWAY 5 DISTANCE 0.45 NM

FAF  
COORDINATES

424527.48N/0711236.54W

FIX NAME  
COORDINATES

IF ROUAN: 425221.94N/0711642.17W, IAF KHRIS: 425701.09N/0711535.56W

REMARKS

1500 FT POINT IS AT THE KHRIS IAF  
BRYSL: 424818.04N/0711443.14W

QUALITY  
10  
CHECKED

FAA Form 8260-9 / (11/16) Supersedes Previous Edition

Electronic Version

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DOCKET #

ALL DISTANCES TO 1/100NM; ELEVATION TO NEAREST 100 FEET; COORDINATES TO 1/100 SECOND; DEG TO 1/100 DEGREE

DISTANCE FROM	THLD	TO 1000FT POINT	3.86
WIDTH OF	FINAL	SEGMENT AT 1000FT POINT	1.82
TRUE COURSE OF	FINAL	SEGMENT CONTAINING 1000FT POINT	121.63
HIGH TERRAIN IN	FINAL	SEGMENT CONTAINING 1000FT POINT	400
DISTANCE FROM	THLD	TO 1500FT POINT	17.06
WIDTH OF	INITIAL	SEGMENT AT 1500FT POINT	4.00
TRUE COURSE OF	INITIAL	SEGMENT CONTAINING 1500FT POINT	228.38
HIGH TERRAIN IN	INITIAL	SEGMENT CONTAINING 1500FT POINT	600

THRESHOLD  
COORDINATES  
(IF STR-IN)

424315.56N/0710746.33W

ARP COORDINATES

424301.35N/0710724.72W

RUNWAY APCH END  
AND DIST FURTHEST  
FROM ARP

RUNWAY 5 DISTANCE 0.45 NM

FAF  
COORDINATES

424527.48N/0711236.54W

FIX NAME  
COORDINATES

IAF CARED: 425553.75N/0711118.28W, IF ROUAN: 425221.94N/0711642.17W

REMARKS

1500 FT POINT IS AT THE CARED IAF  
BRYSL: 424818.04N/0711443.14W



PART E: PREPARED BY

<u>NAME</u> JASON KRETSCHMER (COLIN CAMPBELL)	<u>OFFICE</u> AJV-A421	<u>DATE</u> 02/06/2022	<u>TITLE</u> AERONAUTICAL INFORMATION SPECIALIST
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